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Discoveries in Gulf Coast and Central Michigan and Big Production Drop Feature the Week

By JAMES McINTYRE

EASTERN petroleum marketers start off the new year with the confidence that the next 30 days will see a better refinery market, with firm or advancing prices. Marketers in the Mississippi Valley region are more optimistic than they were in the last quarter of the old year, but Group 3 marketers begin the new year with no concrete evidence of the anticipated better conditions. Their market is still inclined to weakness.

In the production branch of the business the closing week of the old year saw a very large decrease in production the average for the week having been 2,174,376 bbls., or 146,790 bbls. per day below the production of the previous week and 239,202 bbls. per day below the production in the week ending December 13.

It is a matter of doubt if fining a number of oil producers in East Texas for having produced more than their allowable will alter the situation there. Guilty ones may be glad to pay a fine if they can still make a profit from their illegally produced crude. If it were possible to stow away a few of the hot oil producers in East Texas county jails it might have a salutary effect on the production situation.

The often asked question: How long does it take to drill up an oil field still remains unanswered. In Washington County, Pennsylvania, which has been an oil producing region for nearly 50 years, a 255-bbl. initial producer was reported in the current week in review. In Michigan another pool was opened in Isabella township in the county of the same name. Michigan's potential production has reached 118,404 bbls. per day, with an allowable of 29,116 bbls.

A wildcat north of Pecos City, Loving County, West Texas is standing with 500 feet of oil in the hole and may lead to the discovery of another prolific pool. In the Eastern side of Texas the second Long Lake test in Anderson County has made no showing of oil, but the well known as No. 3 Monnig, three-quarters of a mile southeast of the discovery well is showing possibilities encouraging to the owners.

A wildcat well in the Tarkington Prairie or Cleveland district in northwestern Liberty County, Texas Gulf Coast, which started at 658 bbls. in 12 hours, is one of the most important discoveries since the first oil well in the Conroe Field. Only 8 feet of sand was penetrated. The conditions surrounding this well lead to the belief that it is the opener of another important Gulf Coast pool. The oil is of light gravity, comparable, it is said, to that produced in the Conroe Pool. A 300 bbl. producer, also a wildcat, in southern Polk County was another high light in the news from the Coastal Field.

Crude Oil Production in the United States

Estimated daily average production for the week ending December 30, and a comparison with previous week and one year ago, follows:

	Dec. 30	Dec. 23	Dec. 31, 1932
Oklahoma—			
Oklahoma City	111,610	204,640	61,550
Seminole-St. Louis	80,360	94,515	99,995
Remainder of State	203,480	206,615	195,350
Total Oklahoma	395,450	505,770	356,895
East Texas—			
Lathrop	181,565	184,244	Fields shut in
Kilgore	132,740	133,916	Fields shut in
Joiner	117,985	119,475	Fields shut in
Total East Texas	432,290	437,635	
West Texas	120,154	120,337	162,055
North Central Texas	80,943	81,108	72,035
Texas Panhandle	41,450	40,667	47,754
East Central Texas	42,125	42,903	51,010
Gulf Coast—Texas	158,437	159,354	130,015
Southwest Texas	42,461	43,205	55,823
Total State of Texas	917,860	925,209	518,692
Kansas	109,855	106,370	89,840
North Louisiana	26,195	25,600	29,225
Gulf Coast—Louisiana	44,876	45,267	33,165
Arkansas	32,290	32,200	32,800
Eastern Fields	123,000	124,000	116,000
Rocky Mountain area	78,850	79,750	65,148
California—			
Santa Fe Springs	40,150	43,850	55,000
Long Beach	57,000	62,750	70,500
Playa Del Rey	9,200	9,700	13,000
Elwood	12,850	13,100	13,500
Kettleman Hills	50,450	55,450	59,500
Remainder of State	276,350	292,150	259,500
Total California	446,000	477,000	471,000
Total United States	2,174,376	2,321,166	1,712,765

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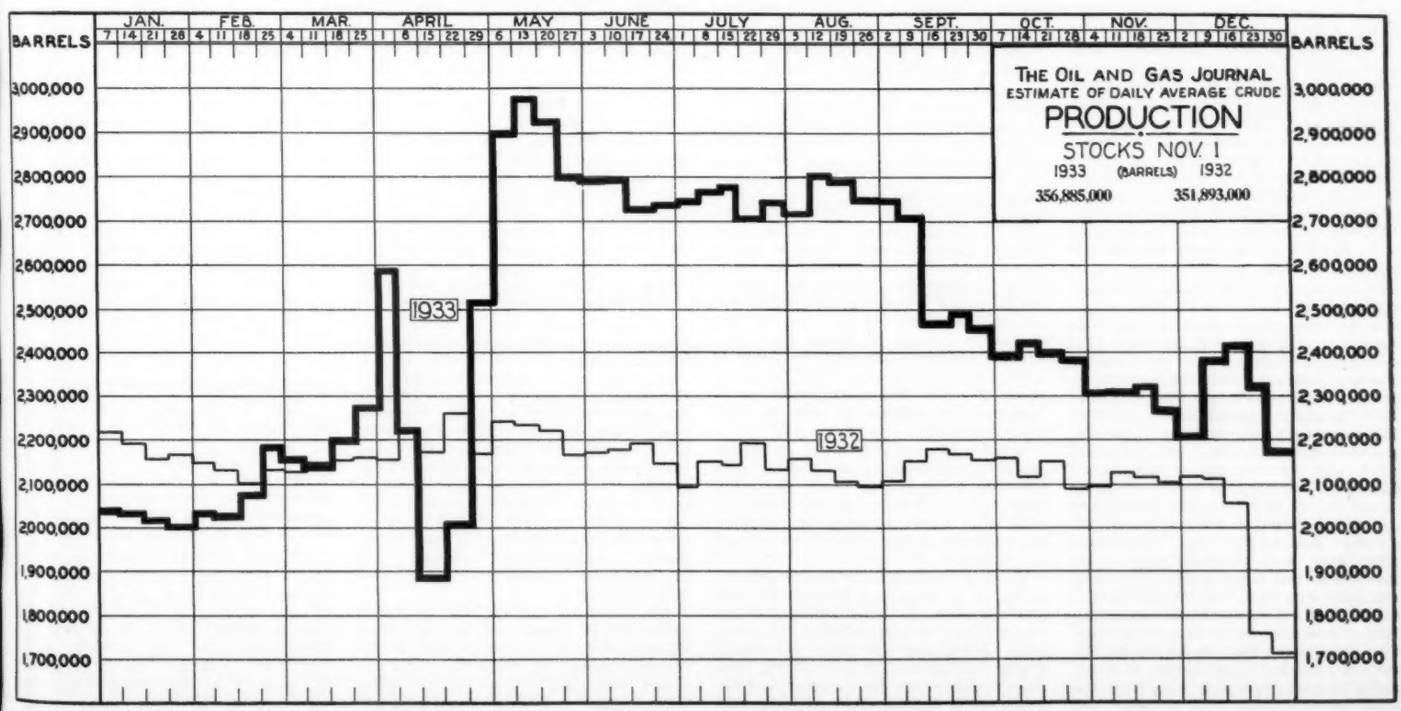


Oil Leaders Send Industry New Year Greeting; Are Encouraged by the Outlook for 1934

NEW YORK, Jan. 2.—Co-operative effort within the petroleum industry under the code of fair competition is bringing improvements, and there should be progress in 1934 beneficial to employes, and fair alike to the industry and the consuming public, in the opinion of W. R. Boyd, Jr., executive vice president of the American Petroleum Institute. Mr. Boyd believes that the industry is learning to co-operate and that permissive self-regulation will result in continued benefits.

"The end of 1933 and the dawn of 1934 find the oil situation in an improved position," Mr. Boyd said, "and that improvement should be progressive. The NRA code of fair competition for the petroleum industry is getting results. The oil situation is already much better, and there should be cumulative improvement during 1934. The oil administrator and the Planning and Co-ordination Committee and its thoroughly organized code committee organization throughout the country are making earnest effort to enforce the code provisions. The measure of success depends as much or more on the degree of co-operative work done by oil men as on legal sanctions.

"It may be said that the industry is co-operating as never before and that in doing so it is putting its operations on a profitable basis which is alike fair to the industry, helpful to the many thousand employes, at prices that are and will continue to be on a basis reasonable to the consumer, thus making a valuable contribution to the general program for industrial rehabilitation.

"The net effect of the lesson which this industry is learning in co-operation and permissible self-regulation should be helpful for a long period of time."

J. Howard Pew's View

Responding to requests for his views of business conditions at the turn of the year, J. Howard Pew, president of the Sun Oil Co., criticized the attitude of "bad business leadership" toward the national recovery program. He said:

"The year just ended has been crowded with unprecedented events, pregnant with economic and social significance. Three years of depression were climaxed with the bank holiday, which compelled resort, by a courageous national leadership, to vigorous reconstruction measures. These have produced gratifying results in re-establishment of faith, restoration of morale, and better business conditions. The outlook on the future is certainly more cheering at the year's end than it was in the early months.

"I cannot avoid the feeling, however, that we might have come farther on the way to recovery if business had been content to follow the direct road that was pointed out to it in the national recovery program. I refer to what seems to me a perversion of the industrial codes from an original simple purpose. The organization of business codes was symbolic of a nationwide unity in seeking a way out. But in too many cases the effort has been to make the codes go too far. If they had been confined to shortening hours, increasing wages, expanding employment and eliminating child labor, I think more good would have come, and come sooner. Bad business leadership must bear the chief blame. Enlightened self-interest should have seen that a sound recovery plan must consider equally the interests of capital, labor and consumer. But instead of recognizing this obvious fact, altogether too many interests have tried to write into their codes provisions by which they could raise prices, eliminate competition, and increase profits. This caused contention, delay, doubts, and cynicism about the whole program. To the extent that they succeeded, such efforts were bound to destroy purchasing power and lower standards of living; to encourage monopolies, rouse public resentment, and lead to oppressive governmental regulation.

"These must be avoided if self-reliance, independence, initiative and enterprise are to continue as guides to American business. Our country has been made by men who risked, dared, experimented, invented, explored, and pioneered. Under regulation and bureaucracy the genius of such men is certain to be stifled.

"If when we had prosperity we had all realized the need of effective buying power extending to all the people, our prosperity would have remained with us. More of industry's product would have been consumed, there would have been less for swollen profits, less temptation to excesses of speculation. And yet capital could have had ample reward for its every legitimate service.

"We all recognize these mistakes of the fat years. We ought to profit by their lesson. Instead, too many have sought to sieze upon privileges, to insure high prices, to put the consumer at their mercy. Such efforts have been responsible for slowing down recovery. They have hampered a program which was inspired by the highest ideals and in which there was no place for narrow self-seeking. The fact that despite these hindrances so much has been accomplished, is proof of the country's fundamental soundness."

President Seubert Optimistic

Summarizing conditions within the oil industry at the close of 1933, E. G. Seubert, president of the Standard Oil Co. (Indiana) offers an optimistic note. He says:

"The oil industry ends 1933 in better condition than a year ago. Sweeping changes have taken place under the oil code. With the help of the Government, efforts to prevent overproduction have made progress. We are on the way toward a sound balance between supply and demand. Prices are still somewhat unsettled. However, some unsound marketing practices that have helped to make chaotic situations have been eliminated.

"In industry and business at large 1933 marks the beginning of a new epoch. Just what it is going to be remains somewhat difficult to determine. There seems no doubt we are committed to new ways of doing things. At the moment there are encouraging signs that business is beginning to reap benefits. I hope these signs will be amply confirmed by events of the next few months and that we shall have a still happier picture before us at the end of 1934. Standard of Indiana faces the new year with confidence that sufficiently vigorous efforts will result in further gains against the difficulties that have had to be opposed in recent years."

Federal Regulation But Not Federal Operation Necessary for Some Time, Says A. J. Byles

By AXTELL J. BYLES
President, American Petroleum Institute

The public, as well as the oil industry, understands that overproduction of crude oil is responsible for most of its difficulties and the economic waste and evil practices which have followed. It may not be as well understood, however, that the industry, up to this time, has been unable to achieve a balance of supply with consumer demand by reason of a combination of law of capture, the laws against restraint of trade and of small minorities within the industry which, either by reasons of avarice or financial exigency, or both, have refused to co-operate in any constructive program.

Under Federal control, which commenced September 8, 1933, daily production of crude oil has been reduced, with the co-operation of the oil-producing states, from its then level of 2,721,000 bbls. to 2,290,000 bbls. as of December 23. In addition, it is estimated that about 60,000 bbls. a day of "hot" or illegal oil are still being produced. While daily crude oil production has exceeded Federal allowable, with the exception of the month of November and the first week in December, substantial progress has been and is being made in the right direction. Earnest and intelligent efforts are being exerted to bring daily production within the allowables and entirely to eliminate illegal or "hot" oil. It is recognized that the industry cannot attain a sound position so long as "hot" oil is produced.

Other than control of crude oil is necessary to stabilization pending the time when excess stocks of crude and products are liquidated; namely, runs to stills and correct handling of the present excessive stocks of products as well as crude.

No plan of stabilization can be effected unless it is recognized that every pool and operation in each section of the country has a responsibility to every other section and operation. The claims of different sections of the country, from time to time, that their supply and demand are in balance and that price wars do, nevertheless, occur, will not bear close analysis. If quotas are set too high; if they are based on the old fallacy of refiner demand, which is speculatively influenced, instead of upon consumer requirements for products; if quotas are inequitably and uneconomically allocated between states and pools, if they are not respected and enforced, chaos, cut-throat competition, waste and bankruptcies are inevitable.

Proration of crude oil is sound in theory and, under present conditions, essential in practice. It has heretofore failed because it has been neither equitably or scientifically applied, nor has it been enforced. Local or temporary balances of situations are of no avail when there is no confidence in their generality or permanency. Once the threat of failure is removed, the whole psychology changes. Confidence replaces uncertainty and fear. Whereupon our proven reserves and great potentials, vast for the needs of today but meager for the needs of future years, becomes stabilizing and reassuring factors instead of monstrous things threatening to destroy an industry while they are destroying themselves.

It is conceivable that, in an economy where inventive genius and technical skill have demonstrated their ability to outrun consumption with production, the Government may, for a time, have to regulate production of many commodities, increasing the allowables when prices become too high and decreasing them when prices become too low. Such regulation, if it comes, may continue until we are able properly to adjust the use of credit, the flow of capital, attain more equitable distribution of buying power, expand foreign markets, and through trade agreements avoid destructive competition.

By reason of the fugitive nature of crude oil in place and the fact that, without restraint by Government or enforceable agreement, the drilling of a discovery well usually leads to the immediate complete development and early exhaustion of a pool, I would hazard the opinion that, in this industry, Federal regulation of crude oil production may be necessary for some time to come. Such a policy need not and should not involve governmental operation of the industry.

If we produce enough crude oil to supply consumer demand for products, less enough to permit modest withdrawals from storage until they reach economic levels, it will not be possible to overproduce gasoline. Free interchange of crude and gasoline between those who are long and those who are short of these commodities will result; inventories will be liquidated, and the oil industry will be prosperous. Confidence once established in the stability of economic quotas of crude oil, willing buyers at fair prices will appear for both crude and products. The Government can, by fiat, establish a price, but no government, by fiat, can establish a value or maintain a price against a market value.

Under government control of production, there is no danger of runaway prices for motor fuel or refined products. Should such prices threaten, the remedy is in the hands of the Government through its control of production.

MR. ROCKEFELLER'S HEALTH

NEW YORK, Jan. 3.—The condition of John D. Rockefeller, Sr., snowbound at Pocantico Hills, is "just about the same," persons close to the family said. It was said Mr. Rockefeller's physician calls on him three times a day and a specialist from the Rockefeller Foundation of New York visits him once a week.

Although John D. Rockefeller, Jr., has been assured there is no cause to worry, he and his family are passing the winter at their estate, The Lodge, for the first time in years instead of opening their New York home. So carefully is Mr. Rockefeller guarded against a setback that none of his golf partners have been permitted to visit him.

Ickes Asks for Immediate Report on Agreements From the Petroleum Administrative Board

By ANDREW M. ROWLEY

WASHINGTON, D. C., Jan. 2.—As the new year opens, the petroleum industry is all set to go ahead towards better times. All that is needed to put the machinery in motion is approval by Harold L. Ickes, Secretary of the Interior and oil administrator, of the agreements signed here for taking up surplus gasoline and providing marketing practices, commonly called the pooling and marketing agreements. Approval of these agreements has been held up by conferences with different groups and organizations.

Secretary Ickes stated today he hopes to have an announcement this week on the agreements.

An open conference on the agreements, scheduled for this morning in the office of Nathan R. Margold, solicitor of the Interior Department and chairman of the Petroleum Administrative Board, failed to materialize when those asking for the conference did not put in an appearance. The hearing was requested last week by Maurice J. Alexander, of Birmingham, Ala., who stated representatives from all sections of the United States would come to Washington to present their views. He said he represented the Alabama Service Stations Association, Inc., organized last spring by retail gasoline dealers.

An hour after the conference was scheduled to open a letter was received from Mr. Alexander asking a postponement of the hearing. Mr. Margold immediately wrote Mr. Alexander to the effect a hearing would be granted the association if representatives came to Washington before a decision had been made on the agreements but that action on the agreements could not be held up indefinitely waiting a hearing, especially in view of the fact this association had been given an opportunity to be heard.

Harold L. Ickes, oil administrator, has approved an interpretation of Article 5, Rule 5, of the code that the phrase "all deliveries" appearing in the first sentence is interpreted to include consignments, shipments or deliveries.

Approval of the agreements is expected shortly. Secretary Ickes will give weight to opinions of members of the Petroleum Administrative Board on the subject. These members have studied so-called objections and have heard the views of those classified as objectors. These conferences, as stated in The Oil and Gas Journal last week, do not constitute real objections to the agreements but are simply meetings where different interests want to know more about specific provisions of the agreements and be assured such provisions will protect them in their operations.

Just when the secretary will give his approval is problematical. It has been expected from day to day. He issued a statement on the subject, postponing the effective date of the proposed schedule of minimum prices for the industry to February 1. In that statement he said:

Statement on Postponement

"This action was taken to permit a few more days in which to study proposed pool and marketing agreements submitted by the industry. Because of the tremendous issues involved in these agreements, they will require a few days, perhaps a week or two, in which to study them to assure every protection to the consumer, the independents and all other interests in the industry in the final determination. I have requested an immediate report on the agreements from the Petroleum Administrative Board which I set up to assist and advise me in enforcing the code of fair competition for the petroleum industry, so that a decision can be made as quickly as possible. Pending a decision upon the agreements, the proposed minimum price schedules, recommended to me by the Planning and Co-ordination Committee representing the industry, will be held in abeyance."

Uniform contracts for dealers and jobbers under the marketing code have been worked out by members of the Marketing Committee of the Planning and Coordination Committee. Members of this committee spent long hours here last week working on these contracts as it is understood Secretary Ickes desired to see these contracts before approving the agreement. These contracts have been printed and submitted to the Secretary.

Approval of these agreements will permit the oil business to start functioning immediately on a sound business basis. Stabilization of the industry will be assured and better times for every company in the business is almost certain.

Mr. Arnott's Views

C. E. Arnott, chairman of the marketing committee of the Planning and Coordination committee, feels these agreements constitute the best business judgment shown by the oil industry in years. He says the agreements are based on sound business principles which might well be applied to any other industry. And the remarkable thing, according to Mr. Arnott, is the fact the so-called little fellows, who have been regarded in many quarters in the past as bolsheviks, are the ones most enthusiastic about these agreements. They have approved what has been done and are for the agreements. (Senator Borah please take note.)

Practices inimical to the best interests of the petroleum industry have been built up in the past, over a long period. Someone did something which was a little out of line with sound business practice and his competitors felt he had to follow suit. Then another step was taken along the wrong line and the competitor again felt he had to follow suit. As a result practices and methods were established which contributed greatly to the chaotic condition in which the petroleum industry found itself.

With uniform contracts, backed by Federal orders and authority, business in the petroleum industry can be carried on along constructive and profitable lines without affecting the interests of the ultimate consumers. This idea of the consumer being made to pay millions of dollars annually, more than he has paid, is the bunk. The idea of the NRA and the administration is to put every business on its feet where it can enjoy a reasonable profit and, as a result, employ a maximum of people and pay them a maximum wage. Most everyone loses sight of the fact the oil industry has been operating at a loss for years and its income must necessarily be increased to achieve the object of the NRA and the code for the industry. And they also forget they have been buying gasoline at prices which meant a loss to the oil industry. Once again we refer to the fact the price of gasoline on September 1, 1933, was 5.38 cents a gallon less than the average price paid by motorists at filling stations for 20 years up to 1933, this figure being compiled from U. S. Government statistics. This figure is exclusive of tax which for the 20 years averaged 2.12 cents a gallon and on September 1 averaged 5.64 cents a gallon.

Those interested in the welfare of consumers should pay more attention to taxes as government figures show the return of oil companies from the sales of gasoline are far less now than they have been for more than 20 years and also prove that gasoline is the cheapest of all commodities, based on the price index covering food, furniture, building materials, farm products, etc., as set up by the Departments of Labor and Commerce.

Oil Before Congress

With Congress convening this week and matters affecting the petroleum industry bound to be a major subject, attention of oil company executives is again called to the following articles which have appeared in The Oil and Gas Journal and which will throw considerable light on matters Congress might consider: Pipe lines, special section in issue of April 13, 1933; gasoline prices, September 7, 1933; gasoline cheapest of commodities, issue September 28, 1933; taxes, October 5, 1933; and earnings, October 19, 1933. Information in these issues should be made available to every member of the House and Senate. And representatives of the petroleum industry in Washington should have these facts and figures at their finger ends to give them immediately whenever questions are asked.

The petroleum industry is united as it never has been before. Conferences held here between different groups and representatives of different companies have made all see the other fellow's viewpoint and, in addition, have made all feel, at least for the present, their interests are identical. The trouble has been suspicion among representatives of motives of companies represented. When they have had a chance to talk over things they agree on basic troubles and agree on methods to correct these troubles. The parasite or chiseler has been the main trouble of the petroleum industry. He entered a flush field and, wanting only a lot of production, violated rules and regulations and overproduced. If he could not sell this overproduction at posted prices, he took what he could get. Naturally the crude market was affected by his selling and by the selling of gasoline made from this crude at prices under prices posted by refiners paying the posted price.

Companies who have bought this "hot oil" realize their mistake or negligence in checking production records. They now are co-operating in efforts to stop this practice. Production figures still show an overproduction, especially in East Texas, but the oil administrator is going to get hard boiled on this matter and will do everything in his power to stop these violations. He means everything he says in an order and if things do not go along according to that order, someone has to do a lot of explaining and the men working with him would rather carry out the order than try to explain.

Code and Foreign Business

There seems to be some misunderstanding on the effect of the oil code in the United States on foreign business. Claims have been made that crude oil could be sold for export at any price accepted and that gasoline, made from this crude, would come back to this country, at a lower price, and affect the domestic market.

The policy of the Planning and Coordination Committee has been to maintain foreign business. The committee has had numerous requests for withdrawals from storage to supply foreign demand. These have been granted only on the affidavit and conclusive proof that such oil, designed for export, would not be sold under the posted price of the field from which it came, plus transportation and loading charges. If exporters want to ship crude oil abroad, they can do it without trouble, providing they abide by this rule of the Planning and Co-ordination Committee.

Every effort is being made to maintain foreign business. Take France, for example, as it is spoken of as an important market. France will buy 30,000,000 bbls. of crude oil during 1934. Its refineries are constructed so that American crude is desirable. France designates that a certain percentage of its gasoline requirements shall be manufactured in France. The refineries are adapted to American crude oil. As long as France orders that a certain percentage of its gasoline be manufactured there, why should not American companies supply that product, that is crude oil? Dickerings have been made with French refiners, but the chief foreign problem is to guarantee them a supply over a period. Price does not seem to be as important as a guaranteed supply over a stated period. One cargo now at a cut price does not mean as much as a stipulated cargo at intervals over a long period. There will be a demand for American oil for export during 1934 regardless of the price here.

Federal Economist Explains the Method for Making Petroleum Allocations

AUSTIN, Tex., Jan. 2.—The Texas Railroad Commission has received an affidavit by George R. Hopkins, acting chief economist of the petroleum economics division of the U. S. Bureau of Mines, stating how the Federal allocation of oil is calculated:

The method of forecasting the gasoline demand has been developed in the U. S. Bureau of Mines as the result of a special study extending over a period of almost two years. Fundamental data employed in making the conclusions entering into such forecasts are the official records of the U. S. Bureau of Mines. The assembling and analysis of these fundamental data are conducted by members of the staff of the said Petroleum Economics Division, all of whom have had many years experience in assembling and working with information of this character. The major part of the work thus performed is done under my direct supervision, and much of that pertaining to the interregional movement of gasoline and crude oil, the analysis of trends in refinery operations, and the seasonal fluctuation of gasoline stocks, which result in a forecast of required crude oil production among the several states is done by me personally.

The seasonal market demand for crude oil in the various producing states in the United States is determined by first ascertaining the total consumer requirements for the principal petroleum products and the sources from which it is

(Continued on Page 31)

Senator Borah Writes Second Letter to Ickes; Attacks I. P. A. A. and N. P. A. in Talk

WASHINGTON, D. C., Jan. 2.—Senator Borah has sent another letter to Secretary Ickes, attacking the pending oil pool agreement.

As he made public his letter, Senator Borah assailed the Independent Petroleum Association. He said there was only one independent company in its membership and that all the major companies not only held membership in it but also controlled the National Petroleum Association. He asserted that the real independent oil companies do not favor the agreement.

Senator Borah's letter follows:

My dear Mr. Secretary:

In compliance with your suggestion that I write you more in detail relative to the petroleum agreements, marketing and pool agreements, I take the liberty of submitting further views.

First, my investigation leads me to state that since June 1, 1933, the prices for gasoline alone, omitting other refined products, have increased at the rate of nearly a half billion dollars annually, to be exact, $486,000,000, while the costs superinduced by the code are only $125,000,000 annually. Under the marketing agreement, confining ourselves now to the question of prices, the price-fixing provisions of Sections 1 and 2 will add a further annual burden on the consumers to the extent of approximately a quarter of a billion dollars by reason of the establishment of guaranteed marketing margin of 6 cents per gallon on regular gasoline. This guarantee seems to be unfair to the public and only serves to increase the profits of the big companies, who, according to the figures available, are now making very large profits. The effect of this guaranteed margin will also eliminate from the marketing of gasoline the low-cost distributors who have heretofore been able to pass on their savings to the consumer to the mutual advantage of both parties.

The marketing agreement further puts into the hands of a small group representing the big interests, the large companies, the power to control, or influence, the trend of prices at their will without regard to the public interest. It may be argued that this power will not be abused, but such argument would be in the face of all the experience of the past where power and profits are combined, and also at war with human nature. If we are not convinced by the history of the large oil companies of this country that such power would be abused, there would be no way to convince us except through actual experience and after the public had suffered extortion.

Criticizes Section 4

Then, there is added Section 4, of the marketing agreement which gives this small group of private interests absolute and dictatorial powers, of punishment over those who do not conform to their policies. This seems to me a perfectly indefensible provision. It gives powers which ought not to be lodged anywhere, but certainly not with those who are interested in private gain.

In fact, I think this general observation is warranted that the marketing and pooling agreements combined will have the effect of establishing a complete system of price-fixing in the hands of the oil industry itself, controlled by the major companies without the intervention of any public agency. I can find nowhere in these agreements any power lodged with any public agency or with the Government restraining or controlling the large companies in dealing with the oil industry.

The public has no voice in the operation of the agreements, no measure of governmental control or supervision is provided for, the prices are to be fixed by those interested in the industry. The competitive factors are to be, so far as possible, eliminated or definitely controlled. The consuming public under these agreements in their present form are wholly without recourse in case of justified complaint. The same may be said to be true of retailers under the agreements. They are now in competition with the integrated companies. Their minimum profits in certain cases are fixed by the agreement and their maximum profits in other cases. It seems to me it can not be successfully controverted that the constitutional rights of consumers and the low-cost marketers are taken away by these agreements. They are not parties to the agreement and no way is provided by which they can effectively be protected.

This constitutes a fundamental objection to the agreements. If we are to have price-fixing let it be governmental price-fixing.

In this connection, I wish to quote from a telegram received from the independents of the oil industry on the Pacific Coast representing a capital investment of approximately $5,000,000. I quote: "We invite your particular attention to that section of the marketing agreement which would permit the making of special allowance of one-half cent per gallon to those dealers who will agree to handle one gasoline to the exclusion of all others. Obviously, this would be of particular advantage to the major oil companies. It cannot help but seriously impair and could possibly in time destroy the competition of the independents."

Pool Agreement

Speaking particularly of the pool agreement, it supplants the monopolistic power of the marketing agreement. It definitely enables the large companies to restrict the sale of gasoline to the amount they can handle at a profit after July 1, 1934. The power to buy a "surplus" over the determined amount on any date can be used to ruin consecutively all independent marketers throughout the country by applying the pool's purchasing at any point where independent competition is strong, thus drying up the latter's supply of gasoline. The effect of such a policy on prices is clear and unmistakable.

I called attention in a former letter to the "stabilization committee." This agreement creates a stabilization committee of two representatives of large integrated companies and one representative of a smaller integrated company in each marketing district. Thus the representatives of the two large integrated companies may control the marketing activities of all competitors who are signers of the agreement in any locality. The committee has the power of vote over any signer's desire to meet competition. It also has the arbitrary discretionary power to coerce and boycott distributors, jobbers, wholesalers, or retail dealers by means of suspension of supplies. This is a tremendous concentration of power in the hands of interested parties, and from the exercise of such power there is no appeal to any public agency.

In conclusion, Mr. Secretary, it does not seem to me possible under this agreement to protect the consumers or to save from utter destruction the independents. It seems to me it would in effect be an approval of the combine and monopoly and then withholding all power of control over the combine and monopoly. The agreements, as a whole, are objectionable. I repeat, if the situation is such as to require price-fixing, let the prices be fixed by the Government through responsible agencies.

I am sending a copy of this letter to the Solicitor, Mr. Margold.

(Signed) WILLIAM E. BORAH.

President Franklin Replies to Senator Borah, Branding Statement on I. P. A. A. as False

WASHINGTON, D. C., Jan. 2.—Wirt Franklin, president of the Independent Petroleum Association of America, replying to Senator Borah's criticism of the proposed oil agreements, issued the following statement:

"It is fortunate for the independent members of the petroleum industry throughout the United States that the Government has placed the petroleum administration in the hands of one who understands and sympathizes with their position so well as does Secretary Ickes," said Wirt Franklin, president of the Independent Petroleum Association of America, in commenting on the recent statement of Secretary Ickes that he will not approve any agreement that does not protect the independents.

"The real independents throughout the United States believe in the sincerity of this statement and have confidence that the secretary as the oil administrator will do this. What is unfortunate is that people may wear the cloak of independents for the purpose only of effecting their own selfish designs. To a very large extent the independents have felt that the greatest protection they had was some governmental insurance for a reasonable price. They have stood for price regulation by the Government to the extent of a minimum price that would ensure a return of the cost of labor and investment. Pending the time in which they hope to get this, they have exacted protective clauses in the pooling and marketing agreements now proposed that will prevent them from being wiped out in destructive price wars.

"It is unfortunate that a few who constitute the destructive element in Texas and California and the chiseler throughout the United States and those who would profit by the destructive practices heretofore engaged in within the industry and who could not expect proper credence to be given to statements in their own name have apparently misled one who has not the time to become fully advised and whose reputation for ability and courage is so well established as Senator Borah and through him present the same misleading arguments that they themselves failed to establish. No one doubts the sincerity of Senator Borah in his criticism of the proposed marketing agreements, but they all recognize that it is impossible for one so busy in world affairs to have the opportunity to fully understand the intricacies of a domestic problem within one industry. Therefore, he must rely on some source of information. Apparently those who first received his ear have been those who would destroy rather than build. The senator says that the price of gasoline since June 1 has increased at the rate of $486,000,000 annually, but he does not point out that whatever increase enjoyed so far does not amount to increase in profits but rather a lessening of the losses of those engaged in the industry. Certainly the senator would not want to leave the impression that this represents profits the industry is enjoying.

"In the short time the senator has had to observe these contracts, he comes to the erroneous conclusion that the 'public has no voice in the operation of the agreements, no measure of governmental control or supervision is provided for.' All familiar with the agreements, of course, recognize that this is not true because each agreement provides, 'This agreement shall not become effective until approved by the President of the United States or a Federal Agency duly authorized by him and the President may withdraw such approval and terminate this agreement at any time upon finding that it is contrary to the public interest,' thus giving confidence and assurance not only to those engaged in the industry but to the consuming public that the final control of all of these agreements rests with the President of the United States.

"The petroleum industry is endeavoring with the co-operation of the Government to do what everyone knows is necessary to be done if our Government is stabilized, that is, stop their losses and obtain sufficient earning power to employ and pay labor. The sincere element of the industry has faith in the integrity of Secretary Ickes who has the courage to protect properly all those in the industry against the destructive tactics of a few.

"Unwittingly Senator Borah at the time of the release of his letter to the Secretary of the Interior, if he is correctly quoted by the press, indicated the source of much of his information when he stated that the Independent Petroleum Association and Wirt Franklin was a decoy for the big oil companies and that there was only one independent member of the entire group. The thousands of independents throughout the United States who have so loyally supported me and this association, will know at once that this statement is false and will wonder if they should give the same credence to the rest of Mr. Borah's statement as they must give to this. The independents have often regretted that Senator Borah did not support them in their fight to save the American oil industry, the American farmer and labor in their fight against the importation of cheap foreign oil that was so demoralizing to them."

Use of Cement in Protecting Underground Pipe Lines Against Corrosive Action of Soils

By J. H. PEPER
Chief Engineer, The Buckeye Pipe Line Co., 26 Broadway, New York City

The value of cement as a protective coating for metals subjected to the corrosive action of soils can hardly be questioned. It is today considered a most durable and reliable material for all structures in contact with either soils or atmosphere. One needs only consider the variety of uses to which cement has been put to get an understanding of its value. It is extensively used for highways, tunnels, bridges, foundations of all kinds, mines, dams, caissons, etc. Considerable research and testing have developed many facts in regard to characteristics of cement, so that at the present time one can, through control of mixture, materials, water ratio, time of setting and method of application, produce a mixture that will fit any condition of soil corrosion likely to be met in pipe line work.

The protective value of cement in cases of electrolysis due to stray currents is questionable. Boxing and cementing lines to protect them against stray currents was tried by our companies many years ago and proved a failure. The pipe was destroyed in a short time. Claims are made that by using a mixture with a controlled water content and then vibrating, the porous condition is eliminated and the concrete becomes impermeable to water. I have been advised that there have been cases where such concrete has proven effective against electrolytic corrosion. Wet or damp soils, however, are the danger spots in electrolytic corrosion and it becomes a question whether or not concrete in the ground can ever reach the condition of being free from moisture and soluble salts.

Electrolytic Action

At the present time, it may be said that concrete coatings under favorable conditions of low voltage and dry soil offer resistance to the action of stray currents, but cannot be classed as an electrolysis proof coating. The use of a concrete coating over a fairly heavy bituminous coating should help against electrolytic action. Where there are corrosive soil conditions combined with electrolysis in the same area, we have been able to use cement on the lines to protect the pipe, after an electrolysis survey indicated the danger points. In the particular case in mind, the crude oil lines ran for 5 miles through a city in which all the gas and water lines and trolley rails were bonded. It was found that the installation of 11 insulating flanges with the accompanying boxing with tar or asphalt for 100 feet on each side, raised the resistance of the line to the point of eliminating dangerous currents. This meant the use of tar or asphalt for about 2,200 feet in this section and the balance was protected by cement.

As compared with coatings of bitumen, the chief objection to the general use of cement coatings has been the heavy cost. Experience has shown that unless the bituminous coatings are properly designed and care exercised in the manufacture of the materials, they will not stand up for a great length of time. Lately there have been developments in the application of cement coatings which bring the cost of these coatings down to a basis comparing favorably with the well-designed bituminous coatings.

As a rule, a plain sand-cement mortar will not have the high qualities that a good concrete has. The mortar costs more and ordinarily a much higher water ratio has to be used, because where a thin coating—say one-fourth inch to one-half inch—is to be applied, it is impossible to use anything by a thin mortar. The thin mortar coating, however, is sufficient in most cases to thoroughly protect the metal against soil corrosion.

Combinations of asphalt emulsion with cement and concrete have been developed and claims are made that under certain conditions the asphalt is helpful in preventing disintegration of the concrete. The combination should be effective as a protective coating, but the cost and method of application have to be such as to make it practicable.

In the Pipe Line number of The Oil and Gas Journal, June 4, 1931, an article by J. F. Hough of the Portland Cement Association cites various examples of the use of cement for pipe protection, such as:

Three miles of 12-inch sheet iron water pipe coated inside and outside with one-half inch cement mortar, back in 1866.

The Tamescal Water Co. of Corona, Calif., 10-inch up to 30-inch coated with 3 inches of concrete.

The boxing and cementing of 180 miles of Standard Pipe Line Co. line through the Louisiana swamp, 1913, 1930.

The Dominguez Water Co., Los Angeles, Calif., 8 miles of 8-inch to 30-inch in 1917, 2 inches to 3 inches of reinforced concrete.

The County Water District, Laguna Beach, 8 miles of 30-inch steel plate pipe, gunited with thin layer over reinforcement.

The Sweetwater Water Co., San Diego County, California, 6½ miles reconditioned pipe up to 24 inches, with reinforced concrete in 1918.

The East Bay Utility District of Oakland, Calif., in 1926 adopted three-fourths inch gunite as standard in all steel and cast-iron lines, 12 inches to 30 inches.

Northern Pipe Lines

The history of the use of cement by the Northern Group of Pipe Lines was outlined by me in a paper for the A.P.I. corrosion committee in October, 1931. In that paper I traced the development starting some 40 years ago with a boxing and cementing job on 6-inch and 8-inch pipe across the Jersey meadows from Rutherford, N. J., to Bayonne, N. J. That job was a cement mortar job. After that, wherever an especially bad condition was met, the lines were boxed and concreted with a minimum of 1½ inches, first using wood boxes and later removable metal sides and wood bottom, or sometimes all metal forms, with cement blocks generally used as supports. The places that were so protected were invariably short stretches and in rather inaccessible locations, so that the cost per foot ran as high as 60 cents for 8-inch and 40 cents for 6-inch.

In 1914 a cement coating was applied to 2 miles of 6-inch pipe by means of a gun. After several trials as to the best way of applying this coating the following method was developed: The pipe was laid in the bottom of the ditch on a 6-inch board and supported above the board by 1-inch concrete blocks. The mixture was shot under the pipe and prevented from getting away by holding boards against the pipe and edge of board, thus forming a dam. After the bottom was filled up, the nozzle was applied to the top and sides until about three-fourths inch of coating was built up. The job of coating cost about 31 cents per foot and has never to this date given any trouble. This form of coating was tried out again in the field in 1929 on 8-inch pipe, already laid and supported above the ditch. The result was a thin coating which dried out so fast that the coating crumbled. The losses due to the sharp curvature of pipe were very great.

At the same time the gun was used effectively on a river crossing (8-inch pipe) about 300 feet wide. The pipe was welded together on the right of way on one side of the river in sufficient length to reach across the river. A reinforcement wire of 2-inch mesh was applied to the pipe and then coated to give about three-fourths inch of covering. The pipe was rolled as the cement was applied. The coating was kept continually wetted down with damp burlap and at the end of a week a hard coating was the result. The river was ditched out through rock and sand to form a bed for the line. About every 40 feet burlap was wired around the pipe to make a bumper about 6 inches high and then the whole line was pulled across the river. As the line entered the river it was carefully watched to see if any crack developed, but none was observed.

A "Gunited" 8-inch nipple 3 feet long was buried for three years at Spindle Top Gulley, a famous hot spot. The coating on the nipple was three-fourths inch thick and reinforced with 3"x3" No. 10 gauge electrically welded wire mesh. The inspection showed that this coating had withstood the action of the highly alkaline conditions and was in good shape.

Procedure

In "Construction Methods," issue of December, 1931, there appeared a detailed account of applying a wrapping of cement mortar to large size steel pipe 56 inches to 66 inches in California by means of a machine, using the principle of vibrating the cement as applied and keeping the water ratio at a minimum. The wrapping consists of one-half inch layer of cement mortar which includes a wire mesh as well as a cotton cloth fabric wrapping. This method has been developed to apply a cement coating to small size pipe, with or without bituminous coating next to the pipe. It is recommended by the manufacturer that all pipe have the bituminous coating as well as the wire reinforcement with one-half inch of cement mortar. It is possible with the machine to apply a one-fourth inch cement mortar with no reinforcement except a heavy fabric outer wrapping. There is under development at this time the application of the same machine to coat pipe already laid, that is, for reconditioning jobs, but not much progress has been made. Some people favor a bituminous coating under the cement; I favor the cement next to the pipe. On account of its inhibitive qualities, cement should be most effective when in contact with the metal, except of course in cases of electrolysis.

At this time much development work is being done involving the application of mixtures of asphalt emulsions with sand and cement as protective pipe coatings. Some years ago cement was used in connection with asphalt emulsion by dusting or spraying the dry cement on the asphalt emulsion after application of the latter. The water of the emulsion combined with the cement to form a hard outer coating. The present tendency is to mix the cement and emulsion and apply them as a mixture. Heavy brush coatings of this mixture have been applied. The cement wrapping machine mentioned above is used to apply a mixture of emulsion, sand and cement, about one-fourth inch thick, held on by a fabric wrapper and vibrated as applied.

At the present time our companies are using a method involving a form which applies a 1:3 cement mortar one-half inch to five-eighths inch thick. This method consists of an 8-foot hinged metal form suspended from the pipe by hangers which give the proper clearance all around. Slaters felt is used inside the forms to prevent the mortar from sticking to the forms and at the same time prevent leakage at the joints. The felt also sticks to the mortar and prevents rapid drying out of the mixture. The

Administrator's Report on Crude Stocks

Stocks of domestic and foreign crude oil at the close of the week ended December 23 totaled 342,639,000 bbls., the same total as reported for the preceding week, Harold L. Ickes, Secretary of the Interior and administrator of the code of fair competition for the petroleum industry, announced today. Stocks of domestic crude oil totaled 339,608,000 bbls. on December 23, a decrease of 54,000 bbls. from the total of 339,662,000 bbls. reported a week ago, while stocks of foreign crude oil held in the United States totaled 3,031,000 bbls., an increase of 54,000 bbls. over the total of 2,977,000 bbls. reported for the preceding week.

Current import statistics show an increase of 136,000 bbls. in receipts of foreign crude oil during the past week as compared with the preceding week. Daily average crude runs to stills during the week ended December 23 were approximately 2,355,000 bbls., an increase of 25,000 bbls. over the daily average of the preceding week. Total stocks of motor fuel increased about 1,000,000 bbls. during the week and totaled approximately 55,250,000 bbls. on December 23.

CRUDE PETROLEUM STOCKS REPORTED BY COMPANIES HOLDING 100,000 BBLS. OR MORE

Grade of crude oil—	Stocks held by reporting companies Dec. 16, 1933 (bbls.)	Stocks held by reporting companies Dec. 23, 1933 (bbls.)	Change from Dec. 16, 1933 (bbls.)
Pennsylvania Grade	5,218,000	5,269,000	+51,000
Other Appalachian, including Kentucky	1,113,000	1,158,000	+45,000
Lima-N. E. Indiana-Michigan	1,568,000	1,553,000	—15,000
Illinois-S. W. Indiana	11,790,000	11,060,000	—30,000
North Louisiana and Arkansas	11,783,000	11,692,000	—91,000
West Texas and S. E. New Mexico	32,386,000	32,468,000	+82,000
East Texas	44,463,000	43,778,000	—685,000
Other Mid-Continent	153,485,000	153,914,000	+429,000
Gulf Coast	15,691,000	16,158,000	+467,000
Rocky Mountain	27,180,000	27,176,000	—4,000
California	35,685,000	35,382,000	—303,000
Total domestic crude	339,662,000	339,608,000	—54,000
Foreign crude	2,977,000	3,031,000	+54,000
Total crude	342,639,000	342,639,000	0

form can be removed the next day following the application. The pipe is supported on skids over the ditch while coating is applied and lowered into the ditch a day or so after forms are removed. This method is now in use for reconditioning jobs at the rate of approximately 20 miles per year and the average cost is not in excess of 15 cents per foot.

This form has been used to a limited extent in California. Out there it was found that the paper did not stick to the cement and the mortar dried out very fast. To overcome this, a cold paint applied either with a brush or spray to the cement was used as soon as the forms were removed and the results were even better than when using wet sacks or any other field method. A high grade waterproof cement was also found more satisfactory than the ordinary cement.

The cost of making up the 8-inch forms as described is approximately $1.25 per foot, composed of a material cost of 50 cents and a labor cost of 75 cents.

Our reconditioning jobs run from about 200 feet to 2,000 feet in length. One of our companies reports as follows in regard to the cost of the application of cement by the forms:

1930—17¼ miles; cost per foot: highest, 21.1 cents; lowest, 10 cents; average 13.36 cents.

1931—14 miles; cost per foot: highest, 17.6 cents; lowest, 9.8 cents; average 13.60 cents.

1932—10.1 miles; cost per foot: highest, 20.5 cents; lowest, 8 cents; average, 11.80 cents.

Information in regard to the making and using of the forms has been given several different companies. Patents have been applied for on the form, largely as a measure of protection to ourselves, and we are glad to allow other companies to use them when they express a desire to do so.

In regard to the size of gang, our experience is that it should not number less than 10 men. We have found, under good conditions, that about 100 feet of 8-inch pipe can be coated per man per day. This includes the complete job from the hauling in of forms and lining up of pipe through to the placing of the cement and the removal of the forms. On the average small reconditioning jobs, the per man footage per day will not be so high.

Advantages

There are several distinct advantages in using cement:

1. There is no time lost in its application while waiting for proper weather conditions. This applies most generally to field applications, which in the majority of cases, call for careful cleaning of the pipe, application of primer, followed by the main coating. When using cement, the work can be done at any time that it is possible to do pipe work, except in freezing weather. It is not necessary to have the pipe warm and dry, as is the case with hot applications. The saving in time is a cost factor of considerable importance.

2. Reconditioning with cement can be done without taking the line out of service; in fact, with oil in the line, quick drying out of the coating is prevented and is an advantage. Combined with the use of the electric welder for spot welding the application of a cement coating can be accomplished with a minimum loss of use of line.

3. While it is necessary to clean a line in order to observe its condition, it is not necessary to clean as thoroughly when using cement coating as when a primer is to be applied.

4. Cement has high corrosion inhibitive qualities and acts toward the arresting of corrosive action. A close observation of the depth of pits in a line to be reconditioned will show that a majority of the pits are not deep enough to weaken the pipe materially, provided corrosion goes no further in them. Cement will stop the action and thereby make it possible to cut down the amount of welding.

5. There is less danger of injury to men when using cement than when using hot bitumens. It is also easier to get men to work with cement than to work with hot tars.

6. The corrosive effect of oil-soaked soils on pipe has been clearly demonstrated. Under such conditions it is unsafe to apply any coating which is affected by crude oil. Cement coatings will be found effective under these conditions.

It might be said that the application of cement to pipe lines has developed along the following lines:

1. The Use of Permanent Forms or Semipermanent Forms.

That is, forms which are left in the ground after the cement is poured around the pipe, or those in which the bottom board only is left, the sides being removable. On account of the cost, this form of application is good only for short stretches under severe conditions, and for the smaller size high-pressure lines up to, say, 12 inches. It is too expensive for general use or for use in connection with the large size gas or water lines; average cost today, 30 to 35 cents per linear foot, 8-inch, reconditioning jobs.

2. Cement Gun Applications.

This form of application is not practicable for the small size high-pressure lines, except for special severe cases. It is not practicable for use in reconditioning of the smaller lines where the lines are already laid. It is used to advantage, however, in large size thin-wall pipe.

3. Removable Forms for Applying a Thin Cement Coating.

This form of application can be used to advantage on the high-pressure lines and adapts itself to reconditioning work. It is probably lower in cost than most high-grade wrapped bituminous field coatings, and it has many advantages over the latter. Average cost, 15 cents per linear foot for 8-inch pipe.

4. Machine Wrapped Cement Coatings.

This form of coating can at present be applied to either large or small-sized lines, where the pipe has not yet been laid. Its use for reconditioning work depends on the development of a machine for applying the coating to lines already laid. The costs of the machine wrapped cement coatings per linear foot for 8-inch pipe are estimated to be approximately as follows:

One-half inch cement mortar, wire reinforcement, over enamel, fabric wrapped, 18 to 20 cents.

One-half inch cement mortar, wire reinforcement, no enamel, fabric wrapped, 12 to 14 cents.

One-fourth inch cement mortar, no wire reinforcement, over enamel, fabric wrapped, 12 to 14 cents.

One-fourth inch cement mortar, no wire reinforcement, no enamel, fabric wrapped, 6 to 8 cents.

These figures compare with single wrapped mill coated 8-inch pipe at 15 cents.

5. Combinations of Emulsions With Cement or With Sand and Cement.

There seems to be a decided trend toward this form of application, with the emphasis being placed on the development of machines or other methods of application. The cost of a one-fourth inch machine wrapped coating on 8-inch pipe with sand, cement and emulsion is approximately 15 cents per linear foot.

Besides the above, there have been many other methods and combinations of methods used to apply cement, such as reinforcing and plastering or troweling with and without asphalt emulsions, but I believe such methods have proven too costly for any but very special conditions.

In conclusion, judging from recent developments, it would appear that the general use of cement as a protective coating for buried pipe lines has many favorable possibilities.

(To Be Continued)

Ickes Announces First Oil and Gas Sale Under New Lease for Indian Lands

WASHINGTON, D. C., Jan. 2.—The first sale of oil and gas mining leases under the new lease form for allotted Indian lands will be held at the Five Civilized Tribes Agency in Muskogee, Okla., tomorrow, January 3. Announcement of the sale was made today by Harold L. Ickes, Secretary of the Interior and oil administrator.

According to a statement issued by the Department of the Interior the new form was adopted for use on all allotted Indian lands except the Osage Nation and is intended to protect the correlative interests of both the Indians and the lessees. The statement of the Secretary also says:

"Adoption of this lease form places practically all Indian lands, made subject to oil and gas lease, under substantially uniform conditions and will insure better conservation of oil and gas deposits belonging to the Indian wards of the Government.

"No oppressive, drastic or untried provisions are contained in the new form. Provisions such as are contained in the new form have been in effect for a number of years in public land leases of the United States and have proven satisfactory in that they have resulted in the proper conservation of oil and gas and have protected the public interest.

"The lessee of Indian lands under this form of lease is required to proceed with reasonable diligence to develop the lands and produce the wells drilled. This provision will require development and production of wells on Indian lands on a basis comparable with similar operations on adjoining unrestricted lands. However, where such development and/or production is not essential to the proper protection of the leased land from damage through drainage by wells on lands not the property of the Indian lessor, the drilling and/or production requirements of the lease may be modified or suspended in whole or in part on such terms and conditions as the Secretary of the Interior may prescribe.

"Under the new form of lease the lessee is given the privilege of either drilling and producing necessary offset wells or compensating the lessor for loss through drainage in such reasonable amount as may be determined by the 'officer in charge,' who is a representative of the Secretary of the Interior. This provision is intended to permit a lessee to suspend temporarily the development program of a lease when such a suspension is necessary or appropriate, and is a practice which has been approved by the department.

"Although provision in the lease is made for the payment of an annual acreage rental, the rental paid for any one year will be credited against the royalty paid for that year. Royalties are to be paid on all production from the leased lands at the rate of 12½ per cent of the value of the production.

"Monthly statements of oil and gas runs and royalty must be furnished by the lessee, and the regulations promulgated by the Secretary of the Interior must be complied with. Prior to relinquishment of supervision no interest in a lease may be assigned without the approval of the Secretary of the Interior. Upon the removal of restrictions the leased land will attain the same status as any other patented land and will be subject to the requirements of the appropriate state regulatory body.

"Restrictions as to the time of drilling wells and as to production from any wells, when necessary to protect the natural resources of the leased land, may be imposed by the Secretary of the Interior. This provision is intended to insure compliance with any curtailment program which is necessary for the protection of the public interest and to prevent economic waste."

Appreciation by Ickes on Texas Developments

WASHINGTON, D. C., Jan. 3.—Secretary of the Interior Harold L. Ickes, the oil administrator, today in a public statement complimented Texas officials and oil producers and operators for their co-operation with the administrator in carrying out the national program for holding petroleum production in accord with market demand. The administrator coupled with his statement a firm reminder to companies and operators that the Government will enforce to the limit orders curtailing excess production, and commented on a recent decision granting an injunction against violators by U. S. District Judge Randolph Bryant.

"The majority of producers and operators in Texas, along with the Texas Railroad Commission and other state and local officials," the administrator said, "are co-operating with the Federal Government wholeheartedly in carrying out the Federal program for regulating production to keep it balanced with consumptive needs.

"I wish to take this occasion to express my appreciation to them publicly for their splendid support, and to assure them that every effort will be made to punish the small handful of producers violating the orders, so that there will be full protection for the overwhelming majority who are faithfully abiding by the oil code and orders limiting production.

"I also want to take this opportunity to advise the citizens of Texas that our efforts are not concentrated in the Lone Star State alone. Cases have been brought in California and we are ready to proceed with action in Oklahoma, where some violations have been reported. Wherever violations are found they will be prosecuted immediately.

"Under my specific instructions, the Petroleum Administrative Board which I set up to assist me in enforcing the oil code, and the Division of Investigations of the Department of the Interior, will continue to co-operate with the Department of Justice in the work of gathering evidence and bringing action in the courts against violators about whom complaints are received or whose production indicates they have broken faith.

"To me, violators of production orders are more than mere 'chiselers.' They are wastrels of a limited and irreplaceable natural wealth belonging to the entire nation, and sneak thieves of a communal property jointly owned by all whose wells tap the underground reservoir of petroleum and whose investments should not be wilfully wrecked by a few unscrupulous operators.

"I regard the decision of Judge Bryant as very significant and additional support for the administrative program to bring about stability of the petroleum industry by preventing a recurrence of the unchecked outpouring of crude oil from uncontrolled wells, which drove the industry to the verge of ruin.

"I heartily concur in Judge Bryant's statement that: 'The defendant ought not, in good conscience, be permitted to exceed the quotas allowed to its wells, as such production will injure others who are acting in compliance with the orders of the Texas Railroad Commission and provisions of the National Industrial Recovery Act'."

J. H. FOWLER DIES

PETROLIA, Ontario, Jan. 2.—John Henry Fowler, at one time prominent in the Petrolia oil industry, died last week at his home near this town, aged 79. He came to Petrolia as a boy in the early days of the oil development, and won his first start by building a log boom across Bear Creek and pumping off the overflow oil collected by the improvised dam. Later he became an extensive oil producer.

Reconditioning Old California Wells Profitable Because of Lack of New Field Development

By W. C. WHALEY
Barnsdall Oil Co. of California, Los Angeles, Calif.*

Reconditioning of an oil well includes all work which affects the mechanical condition of the well—whether it be cleaning out, plugging to exclude water, deepening, or repairing which alters its completion status. "Reconditioning" by definition is a broad term. Many problems of repair actually belong to the drilling operation. These problems are not considered within the scope of this paper, which is concerned rather with the particular operations, methods and tools of reconditioning work.

The importance of reconditioning work, when considered in relation to the drilling of new wells, is shown by statistics (see Table 1). In California, during the year

TABLE 1—PROPOSALS TO RECONDITION EXISTING WELLS AND TO DRILL NEW WELLS FILED WITH THE DIVISION OF OIL AND GAS IN CALIFORNIA

	Entire State		District No. 1	
	Proposals to recondition existing wells	Proposals to drill new wells	Ratio of reconditioning jobs to drilling of new wells	No. of jobs per reconditioning proposal
1932	620	288	2.15	1.46
1933 (first half)	444	306	1.45	1.49

1932, the Division of Oil and Gas received 620 "notices of intention to deepen, re-drill, plug, or alter casing in wells," as against 288 "notices of intention to drill new wells," a ratio of 2.15 reconditioning jobs to every new well. These reconditioning proposals did not include cleaning out and fishing jobs incidental to production. Based on records from California District No. 1, which in 1932 reported 78.6 per cent of all reconditioning jobs in the State, each proposal covers an average of 1.46 jobs, such as altering casing and plugging, altering casing and deepening, etc.

The records for the first six months of 1933 show a slightly different ratio. For the State as a whole, 444 reconditioning notices were received, as against 306 notices to drill new wells, or in the ratio of 1.45 to 1. The comparatively larger number of new wells and the correspondingly lower ratio are accounted for by the rush to file proposals made in anticipation of governmental restriction on new drilling. Since no such incentive existed in the case of the reconditioning proposals, it is probable that at close of the year the ratio will be closer to the 1932 figure. In fact, it is possible that in the near future the ratio will be even larger because of development in technique and probable restrictions on new drilling.

This recent activity in reconditioning has not been without its effect on the potential production of the State. During the first six months of 1933 records are available on the repair of 110 wells (see Table 2). The total potential of these wells before reconditioning was 8,606 bbls.; after reconditioning it was 23,854 bbls., an increase of 15,248 bbls., or 139 bbls. per well. During the same period 62 new wells were completed with a total potential of 80,190 bbls. or 1,290 bbls. per well. Thus the increase in potential as a result of reconditioning was 16 per cent of the total new potential developed in the State. However, if the seven wells which were completed for a total of 41,000 bbls. in the highly flush area of the North Dome of Kettleman Hills are deducted, the 15,248 bbls. increase in potential resulting from reconditioning work represents 35.7 per cent of the total increase. This potential, which in the majority of cases is in fields of settled production, is not subject to as rapid a decline as that of new wells, and actually represents a much larger percentage of ultimate production than would be indicated.

The discrepancy between the number of proposals to drill new wells and the number of new wells actually completed and assigned potentials, as well as a similar discrepancy in the number of reconditioned wells, is accounted for by the time elapsed between the filing of a notice of intention and the completion of the work, by dry holes, lack of tests, and failure to drill.

The State's potential as of July 1, 1933, amounted to 1,018,663 bbls. Of this potential 1.5 per cent was furnished during the six months preceding by the increased production of reconditioned wells, and 7.9 per cent was furnished by new wells.

Well Analysis

The reconditioning of a well is justified only when the actual cost of the repair operations will be repaid by the increase in net revenue obtained from the well as a result of increased production or as a result of reduction in lifting costs. Reconditioning is justified only if the operator is compensated with a profit for the risk attendant on such an operation. The economic advisability of repair work is based on the expectancy that the investment will be returned within a reasonable time. The profits from reconditioning generally are much greater if the work is performed early in the life of a well, as the resulting increase in ultimate recovery usually is much larger.

Adequate and comprehensive production records must be kept to determine when reconditioning operations are justified. It is a safe assumption that many wells, particularly on large properties, are being produced at a loss unknown to the operator, due to the absence of adequate production-cost records of individual wells. It is an equally safe assumption that many wells which have been shut down as economically unprofitable could actually be produced at a profit if the facts regarding their cost and production history were known. In the early life of a field very little information may be necessary to determine the value of reconditioning operations; however, the need for clear and complete records increases as the productivity of the producing zone decreases. Reconditioning is hazardous when complete information is available, but the hazard of these operations is unnecessarily increased by the absence of adequate records. When well logs and histories are prepared originally they should be written with this situation in mind; and all pertinent data should be included.

TABLE 2 — POTENTIAL-PRODUCTION FIGURES FOR RECONDITIONED AND FOR NEW WELLS IN CALIFORNIA DURING THE FIRST HALF OF 1933

	No. of wells	Total potential (barrels per day)	Average potential per well (barrels per day)
Reconditioned wells	110	23,854	217
New wells	62	80,190	1,290
Excluding Kettleman Hills North Dome	55	39,190	712

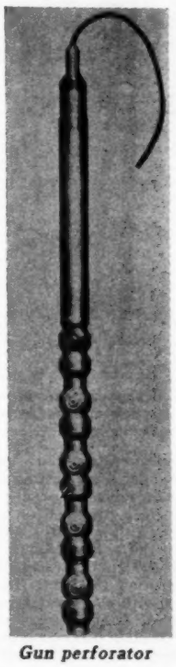
Reconditioned Wells Only

	Potentials			
No. wells	Before reconditioning	After reconditioning	Increase	Increase per well
110.....	8,606	23,854	15,248	139

Periodic reviews of producing wells usually indicate the need for repair work that might otherwise be overlooked, and thus repair work can be done before the condition of the wells becomes serious. A routine examination of producing wells, made for the purpose of planning repairs, will aid in maintaining wells in proper mechanical condition, in correcting minor mechanical defects, and in minimizing subsequent repair charges.

System of Approval and Accounting

In general, it has been found preferable to have the initial request for repair work originate with the men directly in charge of well operations, since they have



Gun perforator

direct knowledge of the mechanical condition and production performance of each well. They should prepare and submit a report to the district office outlining the unsatisfactory condition of the well or wells; all pertinent facts should be brought to the attention of the production superintendent and production engineers for their investigation.

Following an investigation by the district office, a detailed report covering the proposed reconditioning of the well should be prepared. This should begin with a summary covering all pertinent information on the mechanical and production status, and should include an estimate of the anticipated increase in daily and ultimate production. The repair program should then be outlined. A detailed estimate of the expenditures should be made—classified according to cash outlay, material transferred, and prorated expense. The report is then ready for executive approval and authorization of the expenditures.

Accounting reports showing current expenditures should be furnished the field department during the progress of the work; and, upon completion of the work, a final statement should be issued comparing the original estimates and the actual expenditures. A pay-out statement is also advisable to show the actual increase in daily production, the indicated increase in ultimate production, the reduction in lifting costs, and the time required to return the cost of the job. This may be prepared for each well, or may be made at regular intervals covering all current jobs. Such information is important for determining whether the reconditioning work is paying its way. If the reconditioning program justifies the maintenance of a permanent repair organization, the results obtained from such work are found to be more satisfactory, and the unit cost of repairs is lower.

Cleaning-Out Operations

The simplest and most common method of reconditioning is the cleaning out and rejuvenating of old wells by bailing and swabbing. Although dart-and-chisel bottom bailers are still used, they have generally been supplanted by suction-type bailers. The use of suction type bailers eliminates to a large degree the necessity for cable or rotary tools for the cleaning-out operation, as it makes possible the removal of hard sand bridges. Side-port bailers assist in cleaning perforations, and prevent the bailer from sticking. Swabs equipped with relief valves have been successfully used in many instances to clean the perforations and to open drainage channels. Alternate swabbing and bailing is advisable where the well does not respond to the more simple treatment. An especially enlarged shoe or trap attached to the lower end of the suction bailer will pick up small pieces of iron. If the pieces are of such size or irregular shape that they cannot be recovered by the bailer or other common fishing tools, a recently developed electromagnet may be used.

Another method for improving the production of old wells is by means of perforation washing. Two types of perforation washers are in use: pressure type and suction type. The pressure type is designed to force fluid outward through the perforations—thus loosening the sand, mud or other material plastered between the perforated casing and the walls of the hole. The suction type of bailer attempts to draw the sand or mud into the tool itself, from which it can be entirely removed from the well. Use of both types of washers successively has been found particularly effective.

Exclusion of Water by Cementation

If the contemplated repair is to consist of the exclusion of water from the well, it is necessary to locate with considerable accuracy the source of the water entry. Formerly such location was based on the rather hazy methods of correlation, thief-bailer samples, and mud tests, which were not satisfactory; but more precise and accurate methods are now available.

The resistance method measures the resistance of the fluid in the hole to the passage of an electric current between two electrodes suspended in the hole by means of an insulated conductor. This method first conditions the hole by running the tubing to bottom and circulating fresh water until all other fluid has been replaced. The tubing is then pulled up into the blank casing above the top of the perforations or to a point where water is suspected of entering. The instrument is run into the hole to check the conditioning, and then the well is bailed or swabbed to its normal fluid level, whereupon the instrument is run again. Bailing or swabbing is continued for the purpose of lowering the fluid level by stages; between each bailing operation the instrument is again run until the water source has been located. Since

*Before annual meeting, A.P.I., Chicago. Author's title, "Reconditioning of Oil Wells in California."

fresh water has a very high resistance, and salt water a much lower one, the point of entry of the salt water is determined by an indicated lowered resistance.

The voltaic method converts the hole into a galvanic cell by placing an electrode, consisting of rotary gel, water, and an acid, in that portion of the hole which is to be tested. After conditioning, the procedure outlined above is followed to break the salt water into the hole. This method is based on the measurement of the potential established between the electrodes by the solution placed in the well. The source of the water is detected by a lowering of the potential induced by dilution of the electrolyte at the point of entry.

After water-location tests have located the entry horizons—which can be referred to definite markers—salt-content tests have proved effective in some fields for determining entry points in other wells—without recourse to further electric testing. Interpretation of the data obtained by the above methods has improved to such an extent that the exclusion of water has been greatly simplified.

Cementing Through Perforations

After the point of water entry has been located, the decision must be reached as to whether the liner or oil string should be removed prior to repair. Where such removal is not practical, water may be excluded in many cases by plugging with cement through the perforated casing. The success of such cementing operations depends on forcing the cement through the perforations to obtain a mechanically tight seal with the formation. Prior to plugging, the perforated casing may be washed, reperforated, or, in the case of bottom water, shot, so that suitable openings will be made to expose the formation and assist in obtaining the proper bond.

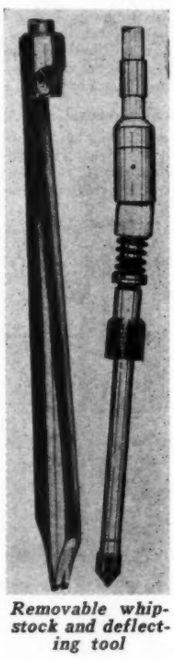
Removal of Liner and Oil Strings

Although the results obtained by the above procedure have been successful in many instances, there is no doubt that water exclusion is simplified by the removal of the liner or the oil string prior to repair.

The usual practice followed for the removal of liners is by inside washing and jarring. The liner is cleaned out to bottom, and the perforations are washed with a pressure-type washer using oil as a circulating fluid. To insure efficient operation of the washer, it may be tested against pressure by being set in the upper blank portion of the liner. The washing should be done in stages, starting from the bottom. A string of fishing tools—consisting of a releasing spear, safety joint, jars, and two or more heavy drill collars—is run, the spear being engaged in the top of the blank section of the liner, and jarring commenced—the force of the jarring action being governed by the mechanical condition of the well and equipment. Jarring is seldom continued for more than two hours—after which the spear is released and removed from the hole. The well is bailed to remove the sand that may have entered the liner as a result of vibration, and the perforations are rewashed before jarring is resumed. In the case of a full oil string which cannot be removed by direct pulling at the surface, a cut can be made not lower than 10 feet above the shoe of the water string, and the casing pulled from that depth. Thereafter the procedure is the same as for a liner. When it has been found impossible to remove the perforated casing by the above method, it may be cut and removed in sections by the use of an inside casing cutter. The first cut is usually made at the bottom of the blank casing, provided this point is at least 10 feet above or below the shoe of the water string—as a matter of precaution—so that it will be possible either to enter or wash over the liner. It is customary to make at least three cuts while the cutter is in the hole—the length of each cut depending on the ease of removal, the length of liner, and the field conditions. The cuts should be made immediately below collars, because a greater choice of fishing tools is thus permitted, and the hazard of washing over is lessened.

When it is impossible to remove the perforated casing by the above method, it may be washed over, cut, and removed—provided the size of casings will permit of such operation. For ease in handling, the wash-over string should be equipped with special tool joints. Good practice limits the maximum length to 150 feet, because of the danger caused by inside and outside friction. It is preferable to use long joints on the wash-over pipe to reduce the number of couplings. The hazard of running a wash-over string is materially reduced by using a safety joint and rotary jars of the drilling type immediately above the string.

By this method the liner is removed by alternate runs of the wash pipe and



Removable whipstock and deflecting tool

outside casing cutter, which removes each section of liner after cutting it. The use of a knuckle joint—consisting of a short length of wash pipe and an outside casing cutter with a spiral guide on the bottom—permits the making of a short cut, even though the casing may be in such a position that it is impossible to wash over with the usual type of string. Other special assemblies are also used to overcome similar difficulties, such as inside cutters, or wash pipes equipped with smaller protruding internal guides. After the liner has been recovered, a bit or wall scraper should be run to clean the walls preparatory to cementing.

Plugging With Cement

More complete knowledge of well conditions has resulted in perfecting of the technique for properly placing cement in a well, and improvements in methods and equipment have been added to overcome the difficulties which formerly made such repairs impossible.

In wells of low fluid level, the fluid depth is controlled during cementing to prevent the forcing of the cement into the formation before it has taken its initial set. This may be accomplished by using tubing with plugs or by an improved dump bailer. The reverse condition, in which the setting of the cement is distributed to bottom water migrating to an upper thief sand, may also be controlled by maintaining the proper fluid level. The use of shots to cause the instantaneous setting of cement has nullified the effects of gas in agitating and disturbing proper setting.

Blank and Combination Liners

Blank liners for cementing off a section of formation, particularly that immediately below a water string, have the advantage of effecting secondary shutoffs without the use of a full string of pipe. Combination liners of blank and perforated casing have the same advantage, and permit a larger size perforated pipe to be used. Blank and perforated casing can be run at one time or separately, and in as many sections as desired.

Deepening Jobs

In the majority of California fields there are several producing horizons; and a review of the records of the producing wells in the immediate area, along with a study of the particular well to be repaired, indicates whether repair in the present zone, deepening to a lower zone, or plugging back to a previously-passed-up zone is the proper course of procedure. Where it is advisable to produce from a lower zone, it is often necessary to sidetrack the perforated casing which is to be left in the hole. In order to protect the producing zone passed up, the sidetracked casing should be properly plugged with cement.

To sidetrack casing or drill pipe in a well is often difficult, and is accomplished by the use of whipstocks, cement plugs, mills or special-type bits which assist in starting a new hole. In sidetracking operations, rather than to use the fixed type of whipstock, it has been found more economical to use the recently-developed removable whipstock which may be oriented into the well. By taking aavantage of the previous survey information of the hole to be sidetracked, it is often possible so to place the whipstock as to sidetrack and at the same time straighten the hole.

Sidetracking may also be accomplished by using the deflecting tool. The cement plug on which the whipstock rests is extended above the portion of the liner remaining in the hole, the tool is run in, oriented in the direction desired, and set on bottom firmly. By rotating the bit, the hole is started in the new direction—a change of 3 degrees in inclination being normal.

In drilling out through casing, sidetracking is more difficult, and fixed whipstocks are used more extensively. By properly placing and cementing the whipstock—which is usually made of steel, granite, or concrete—it is possible to mill out through the casing in the direction desired. When difficulty is encountered, the casing may be weakened by shooting; but care should be taken to round out the hole through the casing after sidetracking has been started. If a survey has been made of the old hole, and inclination and direction readings are taken of the sidetracked hole, the danger of following the old hole may be avoided. Drilling operations in the new hole are then continued, and deeper zones developed as in ordinary drilling.

Plugging Back to Upper Cased-off Sands

Due to competitive drilling in some of the California town lot fields, it was desirable at first to develop lower producing horizons and to case off known upper productive sands. Depletion, encroachment of formational waters, or excessive production costs often require that the lower portion of the well be abandoned, and that production be sought in the upper sands. It is then necessary to abandon the lower portion of the hole in conformity with the requirements of the state division of oil and gas by mudding and/or plugging with cement. Depending on the casing program of the well and the depths of the upper zones, it is often possible to recover sufficient casing to cover the actual costs of backing up to the upper zones.

Perforating casing opposite the zone to be produced is done with either the usual mechanical types of perforators or by the use of the new gun perforator. There have been few changes in the technique of mechanical perforating, and this method is still being extensively used—although it has been somewhat supplanted by the introduction of the gun perforator. The gun perforator consists of an alloy-steel body with 10 or 12 separate firing units, each of which shoots one 0.45-caliber steel bullet. The gun is run on an insulated cable, and the firing is controlled electrically at the surface—it being possible to space the shots as desired. Actual field runs have demonstrated that the bullets will penetrate successfully several strings of casing which have been cemented together.

After perforating by either of the above methods, the results may be tested by using a pressure-type perforation washer. If the perforating has been properly done, it should be possible to force fluid through the openings. If, in the original drilling through these upper zones, the sands have been mudded off to such an extent that it is necessary to remove the mud by bailing, swabbing and/or washing over a considerable period of time in order to open up the drainage channels, the same procedure is applied as has been described for ordinary perforation cleaning.

Collapsed Casing

The failure of casing in a producing well is a serious problem, which often causes a total loss in production. The swaging of casing in shallower wells has been common practice, but at greater depths is more hazardous, and the results are not as satisfactory. The only other method so far devised to repair damaged casing is to roll it out with some form of internal roller. The tapered roller is often used; it depends on the action of small inset rollers to force the casing out to its original shape. Where the casing has been damaged by the cutting action of sand, extreme care must be used in this operation to prevent the tool from being forced out through the casing. Recently a rotary swage has been developed that depends on the pressing action of external tapered rings which do not rotate, but which are actuated by an internal rotating eccentric mandrel.

Rolling of casing to its original shape is often considered sufficient repair; but in many cases, where conditions are such that a portion of the zone may be sealed, cement forced through the damaged casing will aid in reinforcing it at the weakened point. Smaller inside liners are also used to reinforce the casing. The chief objection to their use has been the sanding effect between strings. With the use of the proper size perforations, however, and the occasional use of the perforation washer, this objection has been removed.

Reconditioning in One California Field

During the period of voluntary curtailment which has governed production in California since 1929, the allowable production of a well has been based upon its potential. Relatively low crude-oil prices have existed. These factors in the majority of cases have determined the justification for reconditioning wells, and have tended to discourage reconditioning operations in fields of low average potential and to encourage them in semiflush fields. However, mechanical failure may compel immediate repair in any field regardless of other factors.

In one of the semiflush fields in California a marked decline in production, together with a rapid increase in water, required the repair of a number of wells. A preliminary study, based on analyses of the water produced and water-location tests, indicated the presence of an intermediate and a bottom water in the producing zone. A careful study of the records of the several wet wells indicated which of these wells were best adapted to early repair. It was decided that the liners should be removed and the holes plugged with cement to above the intermediate water. Several wells were successfully repaired in this manner. Later a few wells were reconditioned by the use of a combination liner, so as to produce the sand both from above and below the intermediate water. Due to the rapid encroachment of bottom water in the lower portion of the zone, all of the recent repair work has been confined to plugging back to above the top of the intermediate water. The removal of liners was accomplished by the methods described previously.

In the 32 wells that have been repaired 9,213 feet of liner has been recovered in a total crew-working time of 253 days—

(Continued on Page 29)

Paint Jobs Postponed During General Depression Now Furnish Profitable Work for Many Men

By L. G. E. BIGNELL
Petroleum Engineering Editor

In the present campaign to put men to work no one class of activity offers more possibilities than painting of buildings and equipment in the petroleum industry. Every piece of equipment used in all branches of this great industry can use some form of protective coating. Paint is most commonly used, but there are other forms of coating such as sprayed metal, enameling, and galvanizing that play important parts in protecting surfaces on much of the equipment used in the oil industry. To the average oil man steel tankage is symbolic of a paint job, and to the paint salesman the height of his ambition has long been to secure an order for enough paint to completely coat some large battery of 55's or 80's located in his territory.

The paint problems of the petroleum industry, however, are not quite as simple as the above example might imply. This industry employs paint and protective coatings for every type of equipment manufactured for industrial, transportation by land or marine service. The value of a coat of paint for protecting machinery, keeping pipes and tanks free from rust, aiding in sanitation by presenting a surface easier to keep clean, lightening dark places about plants and buildings, and decreasing upkeep costs by reducing replacements that would be caused by deterioration is well known.

Any coating job to be successful requires careful attention be given to details and good supervision be employed. The type and quality of the coating must be selected carefully for the particular service for which it is intended and the surface must be properly prepared to receive the coating. Good results cannot be secured without attention to these details and the time and expense of applying the protective coating will be largely wasted if they are neglected.

This article will deal specifically with the application of paint, varnish and lacquers because they form one type of coating largely used in every branch of the petroleum industry. Selection of the proper type paint and preparing the surface is very essential to a good paint job.

Quality of pigment and vehicle and proper grinding and mixing are of first importance. Painting is by no means a new art as it is known that primitive man used pigments made from iron oxide, ochre and other minerals and juices and saps of trees and plants. Ready mixed paints are comparatively recent in their introduction because prior to the formation of companies to produce mixed products the painters considered it part of their work to grind their own pigments and mix them with their vehicles.

Preparing Surfaces

Because it is first in the order of procedure in a paint job the cleaning of the surface of the material to be painted will be considered now. If wood is to be painted it should be dry and this is not used as a relative term because the surface of wood may appear dry to the eye but by test it may be found to contain considerable moisture near the surface. A paint job may be damaged by moisture seeping through the wood and reaching the painted surface from the back side. It is therefore good practice to know that both sides of a wooden object that is painted is protected against the entrance of moisture.

If the surface has been previously painted it is best to remove all traces of the old paint before applying the new coat. Scraping and using a wire brush will remove most of the old paint and sand papering or sand blasting will clean the surface sufficiently to permit the paint to adhere properly.

Other precautions to take in preparing wood surfaces is to examine the wood to determine whether it is of the kind that may contain resins or other saps in the pores that will later tend to come to the surface. Also make sure that the surface is free of dust and dirt because painting over this type of foreign material does not aid in making a paint job last its normal life.

Metal surfaces may be covered with rust that should be removed if the paint is to have a surface suitable for proper application. The large flakes of rust that are easily seen do not represent the only type of corrosion products that must be removed for there are frequently minute particles of rust tightly stuck to the metal surface that can be removed only by sand papering or sand blasting.

In painting around buildings or equipment in the petroleum industry it seems hardly necessary to caution the painter about having a surface free of oil or grease. Being familiar with petroleum and its products it is assumed that the oil field worker knows and appreciates the harm that will come from applying paint or other coatings over oiled or greasy surfaces. The fact that a liquid is made by the refineries that is used as a substitute for turpentine and is suitable for cleaning surfaces preparatory to painting should help the oil field worker to properly prepare metal surfaces for painting.

On new metal that is covered with mill scale there are several things to be done. Some painters and men in charge of oil field equipment hold to the theory that by permitting this exposed mill scale to remain on the fabricated equipment the metal beneath is protected. This practice has been followed on newly erected steel tanks in some parts of the country. After the mill scale has changed in character and tends to break away from the metal the painters then remove what remains by use of wire brushes or sand blasting and then apply the coating.

Other authorities on painting contend that this practice of "weathering" is not good for the metal and apply paint to the cleaned surface as soon as the equipment is erected and put into service.

Priming coats are used to form a bond between metal and final paint coat and choice of proper primer is an important item in securing good results. There are atmospheric conditions in various parts of the country that tend to create an acid or alkaline condition on the surface of metal. These conditions should be remedied before primer or paint is applied. Alkalinity may be corrected by washing the surface with fresh water with or without a small per cent of hydrochloric acid. If the acid is used not more than 2 per cent should be added to the water and the surface should be rinsed with clear fresh water after the acidized water has been applied.

To correct the acid condition which may be induced by exposure of metal surfaces to acid fumes such as are found around refineries or in territories where hydrogen sulphide exists in appreciable quantities in the atmosphere, a mixture such as ammonia and water can be used to wash the surface.

Application

Much more might be added about preparing surfaces of other materials such as stone, brick, cement, stucco and plaster for painting, but the general requirements outlined above for wood and metal give the principal precautions to be taken in preparing any surface to receive primer, paint, lacquer or varnish and good results will not be secured unless they are followed.

Paint may be applied by brushing it on the surface or by spraying. Where large surfaces are to be covered, the spraying method is finding greater use and stationary equipment for paint shops and for portable outfits are available from many manufacturers.

Before the paint is applied it should be thoroughly stirred to insure proper mixing of pigments and vehicle. When aluminum bronze powder is used as the pigment it is recommended that it be added to the vehicle shortly before the paint is applied. It is explained that the aluminum bronze powder loses much of its metal quality upon being soaked in a vehicle for a considerable length of time.

Old ready mixed paints have a doubtful value and close examination of old paints will frequently show that the pigment has settled and become so hard that it is not possible to again break it up by any convenient means at hand in the field to produce a good paint. It is much cheaper in the long run to throw old paint away and do the job with new, fresh materials.

In applying any paint care should be taken to see that it is spread evenly over the surface and on sloping surfaces to be sure that the paint does not run and accumulate in heavy films or blisters that later will break down and expose the surface underneath.

While painting seems like a very simple operation to many it has been found by careful check of work that in the long run it usually pays to hire experienced painters. If it is necessary to have the paint applied by inexperienced persons it is always possible to secure reliable instructions from paint manufacturers or merchants. Where considerable work is to be done and experienced painters are not available it usually is possible to

Three Well Known Pipe Line Superintendents in Texas

R. E. HANRATTY
Pipe Line Superintendent
Gulf Pipe Line, Goose Creek, Tex.

A. C. HUNTER
Pipe Line Superintendent
Atlantic Pipe Line Co., Texas City, Tex.

G. F. READY
Pipe Line Superintendent
Humble Pipe Line Co., Texas City, Tex.

place them under the direction of an experienced man as supervisor.

Value of Painting

In addition to improving the appearance of equipment, painting has a certain psychological effect upon men employed in the petroleum industry where it is so easy to spill crude oil or its products and cause unsightly stains. Considering tanks as the typical containers of crude oil and its products there are several reasons why they should be carefully painted at all times and nowhere does good painting have the effect of making employes more careful than it does on tanks.

It is a simple matter to run lease storage tanks over and spill crude oil but very seldom is there a good excuse for such practice. If the tanks are permitted to remain covered with oil after such an accident has happened it is difficult to check when the same thing occurs again. On the other hand if the tank is painted, especially some light color, the field superintendent or executive of the company can tell instantly when coming upon the lease whether the oil has been run into or out of the tanks. Care in handling oil into the tanks will cultivate care in handling other material around the lease and this will tend to greater efficiency and pay for the additional effort.

The average lease man is usually proud of his own work and likes to have his equipment neat and well kept. If the executives will approve the expense of paint and brushes the man in charge of the property will usually be glad to keep the equipment painted. This applies to men in charge of all types of equipment in every branch of the industry. Pipe line companies usually require that the station attendants keep equipment painted and bright parts polished and this adds much to the appearance of the stations.

Pipe Lines

Prolonging the life of underground pipe line construction presents a number of problems. Dr. Henry A. Gardner, one of the leading paint research experts of the country, believes that built up protective coatings, which may include combinations of paint films with wrappings of various kinds, provide the best answer to the difficulty.

Twenty and twenty-four inch lines have been laid throughout the Middle West, in the southern states and along the Eastern Seaboard at an expenditure of millions of dollars. Distribution engineers charged with the responsibility of protecting these costly investments are constantly faced with the problem of providing feeders which will operate under high pressure and at the same time be protected by some suitable paint coating.

"The built up protective coating," says Doctor Gardner, "must answer many requirements. They must be relatively inexpensive, easy to apply, nonconducting in nature, and they should have good adhesive qualities. They must withstand corrosive soil waters, low and high temperatures, the shock of back filling—and must be resistant to acids, alkalies, petroleum oils, shocks and abrasions.

"The cost of a coating system," Doctor Gardner says, "will obviously depend upon the service it is asked to perform. For example, if a pipe line of large diameter should cost as high as $2 per running foot for the metal, it would be a saving to protect this line with a coating system costing even as high as $1 per running foot for the labor and material. Rather than bury the line with a coating which would pit and corrode through a period of one or two years, it is obviously wiser to give perfect protection and to extend the life of the pipe for another 20 years.

"Systems are available, however, which are comparatively low in cost and which promise successful service. It is probable that the annual saving in loss of metal and material may at the present time run into many millions of dollars through the use of these paint coatings."

As all petroleum and its products are stored in tankage at all times after it leaves the well, except when in transportation or being refined, it is probable that examples of good to be gained by painting steel tanks will serve to emphasize the benefits that accrue by the use of paint on all other types of apparatus and equipment used in all branches of the industry.

Many tests have been conducted by the engineers of the U. S. Bureau of Mines and by engineers for production companies and paint manufacturers to determine the value of light colors for tanks. It is a well-known fact that dark colors absorb light rays and therefore absorb some heat produced by the sun's rays. Light colors reflect the rays and it has been shown that the rise in temperature in tanks painted white was about 22.5° F.; when painted with aluminum only 20.5° F. Under like exposure it was found that tanks painted black had a rise of 54° F.

The results of these tests have been so generally recognized that white or aluminum paint is now commonly used for painting tankage. To indicate the practical results to be obtained by use of aluminum and gray paint, the following is quoted from report by Ludwig Schmidt, petroleum engineer, U. S. Bureau of Mines, and issued as Serial No. 2,677, "Effect of Tank Colors on Evaporation Losses of Crude Oil."

Color of tank—	Initial gauge (bbls.)	Evaporation loss in one year (bbls.)	Evaporation loss in one year (%)	Loss in gravity in one year (A.P.I. deg.)
Black	52,058	649	1.24	.6
Red	53,294	609	1.14	.5
Gray	53,192	547	.99	.3
Aluminum	53,418	447	.83	.2

With crude oil worth $1 per barrel it is easy to demonstrate that yearly painting of both large and small steel tanks pays.

Like everything else in the oil fields during the past period of low prices and no profits, painting of apparatus, equipment and buildings has been neglected. The effect is now noticeable in rusty metal parts and badly decayed wood. These conditions will cost the industry large amounts of money to overcome. The life of much of the material has been shortened.

Unprotected Deterioration

It is reported that unprotected wood during the first year will deteriorate about 3 per cent, but during the second the rate of deterioration will increase to 31 per cent. This is because of the fact that once the surface of the wood has been broken through by the effect of sun and rain and worn by wind carrying sand against it, the resistance to further deterioration is lowered.

Shabbiness is not the only result from neglect to paint wooden surfaces. Poor paint jobs that have resulted from the selection of cheap materials and lowering of workmanship by rushing the work to hold down the costs will later result in wood rotting in spots where moisture can gather and remain long enough to penetrate beneath the painted surface or break through poorly coated portions of the surface.

Many oil companies maintain their own paint departments to take care of sign work at filling stations, bulk plants and roadside signs. Trucks are fitted out with all necessary equipment and are assigned to districts and the painter in charge is required to keep all equipment in his district in first class condition at all times. Attractive exteriors and interiors of filling stations play an important part in drawing customers.

This type of service could be extended to other departments of the industry to good advantage. The refineries usually keep their equipment in good shape and have apparatus painted frequently.

Sounds Queer, But "Short'nin'" Was Basis of Company Well Known in Welding Field

By T. F. SMILEY

The connection between "short'nin'" and welding may not appear on first thought or even on second, save that they are likely to revive those old wisecracks whose humor lay in the reflections they cast on the resiliency and penetrability of the bride's biscuits.

W. A. SHERMAN
President

But as a matter of fact there is a right close relationship and there is no faintest hint of jest in the statement that the Magnolia Airco Gas Products Co., of Houston, Tex., not only grew out of the vegetable oil shortening business of the South Texas Cotton Oil Co., but the oxygen which originally was a by-product of this latter company came to be its chief one.

The business of the South Texas Cotton Oil Co. was established in 1910. In order to make vegetable oil shortening of the right consistency without impairing its usefulness in the kitchen it was necessary that it contain a small quantity of hydrogen. Without this element the shortening was unsuitable for kitchen use because of its liquid condition.

To introduce this hydrogen in a manner conforming with the requirements of the United States pure food administration it was obtained by separating water (H_2O) into its primary elements, hydrogen and oxygen. The electrolytic process employed in decomposing water to get the hydrogen in it was the forerunner of the hydrogenation process now widely used in the petroleum industry. The hydrogen thus derived was utilized by the company in the manufacture of "Crustene" and "Pancrust," as its two principal products were named.

No Use for the Oxygen

At first there was no use to which the oxygen, 99 per cent pure, isolated from the hydrogen, could be put, with the result that it was wasted. At this period the oxygen welding industry was in its infancy, but as it expanded it created a widening field for the use of oxygen. So the South Texas Cotton Oil Co. soon arranged to dispose of its erstwhile waste product, oxygen, to the welding trade.

As the demand for oxygen increased the company increased its oxygen-producing capacity. Of necessity the production of hydrogen was increased at the same time, without creating any additional outlets for it. So surplus hydrogen now became a waste product, as oxygen previously had been. This situation impelled the company to begin making oxygen by liquefaction in order to produce the quantity needed to meet the welding trade demand. By this method atmospheric air was subjected to an ingenious cycle of processes and the oxygen in it was separated by distillation.

The process of welding metals by application of a fusing heat contemplated at first only the joining of broken parts, but its field of usefulness widened rapidly. Eventually various engineering bodies decided that pipe lines hundreds of miles long could be constructed economically by use of the welding process. As the uses of welding broadened the demand for oxygen required in the oxy-acetylene process increased. Thus the production of oxygen eventually became the principal business of the South Texas Cotton Oil Co. instead of simply a supplementary one.

As the area of distribution expanded the company determined to add acetylene gas to its products and so be able to offer the welding industry the two gases it required for the oxy-acetylene process. Also it was decided to organize the Magnolia Gas Products Co. to operate all that part of the company's business concerned with welding. This was done in 1924.

ED WILKINS
Salesmanager

Owing to the fact that calcium carbide is necessary to the production of acetylene, the company found it advisable to form a connection whereby it could obtain carbide at a price which would make it possible to earn at least a nominal profit.

The original plan contemplated having plants of the new company in Beaumont, Houston, San Antonio, Wichita Falls and Fort Worth, Tex., all centers of welding operations in that State; but it became evident that clients of nation-wide buying power, such as the Electric Bond & Share Co., Standard Oil Co. of

(Continued on Page 36)

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Petroleum and Products Are Ideal Insecticides; Used With Success on a Large Scale

By C. K. FRANCIS, Ph.D.
Technical Editor

The use of petroleum products, including the heavy fuel oils, and in some instances the crude oil, has been a recent development for the control of objectionable fungus growths and the destruction of insects that are harmful to plant growth and livestock.

The benefits to mankind accomplished in remote times by insect life have, under modern conditions, been overshadowed by the harmful and destructive results. The ravages of the insect world on all kinds of crops, and property, have become so extensive that immense effort and vast sums are expended to keep insect pests under control so that crops of various kinds may be harvested and marketed. It has been estimated that insects cause losses each year in the United States amounting to over $1,000,000,000. Many insects serve a useful purpose, the most important being the crossfertilization of plants. The insect visiting a flower in search of the nectar comes in contact with some pollen which it carries to another plant where it is deposited, the conditions frequently being that one species of insect will confine its visits to one kind of plant.

New areas have come into cultivation through the efforts of an ever increasing population, and it has often happened that insects have been introduced into strange surroundings where their natural food was not available. The normal influences which tend to maintain a balance between plant and insect life are so often destroyed by such artificial conditions that the insect frequently gets the advantage and means have to be invented for their destruction, one of the most valuable of these being the preparations known as insecticides. Crude petrolcums and several petroleum products, either alone or with other substances, make ideal insecticides.

An insecticide may consist of any material, from simply water to strong chemicals, that is used by artificial means to control insect life which is destructive to vegetable life and harmful to man. The effective use of an insecticide depends on the nature, life history and habits of the insect which is to be exterminated; so they are applied in such a manner that the normal life history is disrupted or the food eaten during the feeding stage is poisoned. In a few instances, the insecticide may act because of its destructive action on the body of the insect.

Nature of Insects

Plant feeding insects either chew the tissues or suck the juices from the selected part of the plant. The chewing species in many instances feed beneath the surface while others obtain their food from an exposed spot. Among the concealed feeders may be mentioned the leaf miners, which live on the inside of leaves, the borers and ants living on the inside of growing and dead plants, such as timber, woodwork, and the grains. The poisonous gases and petroleum preparations are suited for their control. The exposed feeders include the larger number of insects, such as caterpillars, hoppers, bugs and beetles; the insects of this class may be controlled by the application of poisons on the feeding material, these poisons acting upon the internal organs. The sucking insects are among the most destructive and also difficult to control because the ordinary stomach poisons are not effective, due to the fact that they feed from below the skin through the punctures made by their tube-like beaks; the preferred methods for their control include the use of substances that obstruct the respiratory system and those that have a caustic action on the skin. Insect powders, tobacco and petroleum distillates are recommended for this class of insects.

Certain species of insects, such as household moths and grain weevils, have to be eradicated by suffocation through the use of gas or vapors. Carbon disulphide, liquefied hydrocarbon gases, the volatile petroleum products and hydrocyanic acid are suitable under some conditions. Since many of these insects during one or more stages of their life history do damage to clothing, furs, floor covering, grains and food materials, which are kept in buildings, these dangerous substances must be applied with extreme care so as not to cause explosions, fires or injury to persons and animals.

Ideal Insecticide

The essentials of a good insecticide include: High toxicity, requiring small quantities at low cost; not injurious to materials and plants in the concentration used; suitable for mixing with other chemicals, especially in solutions and emulsions; high spreading and adhesive powers; it must be easy to obtain through normal commercial channels. The extensive experiments, that have been made all over the world, have demonstrated that some of the common elements and compounds of low price are the most effective for the preparation of insecticides. These substances are comparatively few in number, and the authorities agree that petroleum products are almost ideal for this purpose. The several mineral salts are soluble in water and the organic substances are soluble in the petroleum liquids; therefore, concentrated solutions of each may be prepared and then combined in the form of an emulsion to furnish a powerful insecticide.

Approximately 100 years, in 1763, before the petroleum industry was established through the drilling of the Drake well in 1859, Goeze suggested that crude petroleum, when used with care, would benefit plant life. An emulsion of kerosene was used against the currant worm in New Jersey in 1868, and the kerosene soap emulsion, first prepared in 1874, has been in use for nearly 60 years. It was observed that these kerosene emulsions varied in their lethal action, and it was found that such differences were due to the physical and chemical properties of the kerosene being so variable. Among the early uses of petroleum oils for the control of insects was the use of kerosene for killing the mosquito. The research in connection with mosquito control suggested that the better results were obtained with the heavier oils because of their lasting qualities when spread on the surface of ponds. The discovery has been followed by excellent results through the use of lubricating distillates and other heavy fractions of petroleum; these oils being extensively sprayed on trees during the dormant period.

TABLE 1—TOXICITY OF DIFFERENT OIL FRACTIONS TO SALT MARSH LARVAE, 3-5 DAYS OLD, WHEN 24 GALLONS PER ACRE WERE USED

Oil fraction—	Boiling range (° F.)	Per cent larvae dead after— 15 minutes	30 minutes	1 hour	2 hours	Time to kill 100% larvae (hrs.)
No. 2	200-300	65	100	...	...	½
No. 3	300-400	100	...	...	...	½
No. 4	400-500	100	...	...	...	½
No. 5	500-600	10	95	100	...	1
No. 6	600-650	0	25	75	95	3
No. 7	650-740	0	5	10	90	14
No. 202	320-755	90	100	...	...	½
Venango neutral	564-736	0	0	45	65	18
Straw paraffin	552-765	0	0	0	25	18
Diamond paraffin	638-770	0	0	0	0	22
Marcel	616-751	0	0	0	0	22
Crankcase oil	.....	0	0	0	0	20
Distillate fuel oil	364-723	20	90	100	...	1
Distillate fuel oil	430-630	20	50	90	100	2

TABLE 2—ANALYSES OIL SPRAY EMULSIONS

Lab. No.—	Oil per cent	Gravity A.P.I.	Viscosity Say. Univ.	Unsul. Resd.*	Soap	Water
14,793	90.3	38.7	35	92	3 6	2.1
14,787	85.8	28 4	57	88	....	14.0
14,740	94 3	30 0	64	92 8	1 28	3.4
14,658	84 2	28.8	66	94	....	14 3
14,746	63.8	29.6	73	90 4	2.46	26.0
14,742	94.7	30 6	68	95 0	1.30	3.2
14,739	69.3	29 2	85	91.2	3.12	26 0

*Unsulphonated residue.
Sample No. 14,793 contained 3 per cent phenols; No. 14,658 showed 1.48 per cent nicotine; No. 14,746 had 0.67 per cent nicotine and 1.18 per cent ammonia; No. 14,739 contained 1 per cent ammonia.

Petroleum Fractions

The New Jersey Agricultural Station used a number of petroleum fractions of varying range in boiling points, at the rate of 24 gallons per acre to show the difference in killing power. The highest results were obtained with a fraction distilling between 300° and 500° F. Additional details of this work are shown in Table 1.

A general specification for oil of good spreading and lasting qualities indicated by this work for use when treating ponds and spraying weeds is as follows:

MOSQUITO OIL

Gravity, °A.P.I.	30-34
Specific gravity	0.8762-0.8550
Flashpoint, °F.	130-140
Distillation range:	
10 per cent over at °F.	300-400
40 per cent over at °F.	400-550
50 per cent over at °F.	550-750
Viscosity at 100° F., Say. Uni.	50

The action of petroleum on insects is positive, it being especially desirable for the spraying of trees during the dormant period and for the disinfection of soil prior to planting. Its spreading and penetrating properties are high so small quantities are very effective. There is danger of the operator applying an excess with damage to growing plants, and for this reason it is safer to use petroleum products or the crude petroleum in the form of an emulsion.

Oil Sprays

Examples of several oil spray emulsions are given from the numerous analyses shown in the California Department of Agriculture Monthly Bulletin 20, insert, July, 1931.

Many insects, frequently at several stations of evolution, have a protective coating consisting of hair, down, oil or wax, which prevents water from reaching vital parts. Insecticides to be effective against such forms should contain some liquid of greater penetrating and solvent action than water. Petroleum distillates, naphthas, and lubricating fractions are well adapted for overcoming such resistance.

The lower, most volatile, hydrocarbons obtained from natural gas and petroleum are not true poisons but kill insects through asphyxiation and because of the caustic action when they are brought into contact with the soft parts. The heavier hydrocarbons are more severe in their action, for they are positive irritants when in contact with delicate tissues and the sensitive organs. All of the petroleum oils are repellents, most insects avoiding the area where there is even a trace of oil.

Many of the most active insecticides are mineral salts, but there are a few organic compounds and alkaloids used. The mineral salts are soluble in water, the alkaloids and organic substances are prepared for use with special solvents, the petroleum distillates being suitable in most instances. The preferred method for applying these insecticides is by spraying an emulsion made from the water solution and a petroleum product. A brief mention may be made of the important insecticides together with examples of formulas.

Arsenicals

Standard lead arsenicals may be obtained in the powder form or as a paste. The chemical is diluted with water to a degree that the very fine particles are held in suspension. This substance is extensively used for the control of the gypsy moth, the codling moth and many leaf eating insects. Excessive quantities cause leaf burns and discoloration of flowers and fruits. Sodium arsenite is soluble in water, the very dilute solutions being very deadly. When used with care, it may take the place of the standard lead arsenate against ants and leaf insects. It is well suited for emulsions made with petroleum. Paris green is one of the better known insecticides, having been used since 1870 for the control of the Colorado potato beetle, but is now almost completely replaced by lead arsenate.

Calcium arsenate is used for spraying cotton, alfalfa, and the leaf eating insects which attack melons.

The lead arsenate mixture may contain: Lead arsenate 2 pounds, water 50 gallons, kerosene one-half gallon. Apply as a spray. Crude oil, kerosene, or lubricating oil may be made up with soap and added to the arsenicals to increase their killing value.

Sulphur

While free sulphur is used to a limited extent for dusting, the best results are obtained by the use of sulphur compounds.

Lime sulphur, one of the most important of the contact poisons, is a combination of lime and sulphur used for the control of scale insects, peach twig borer and various insect eggs. It is used extensively against fungi that attack orchards and fruits.

Sodium sulphide, which may be ob-

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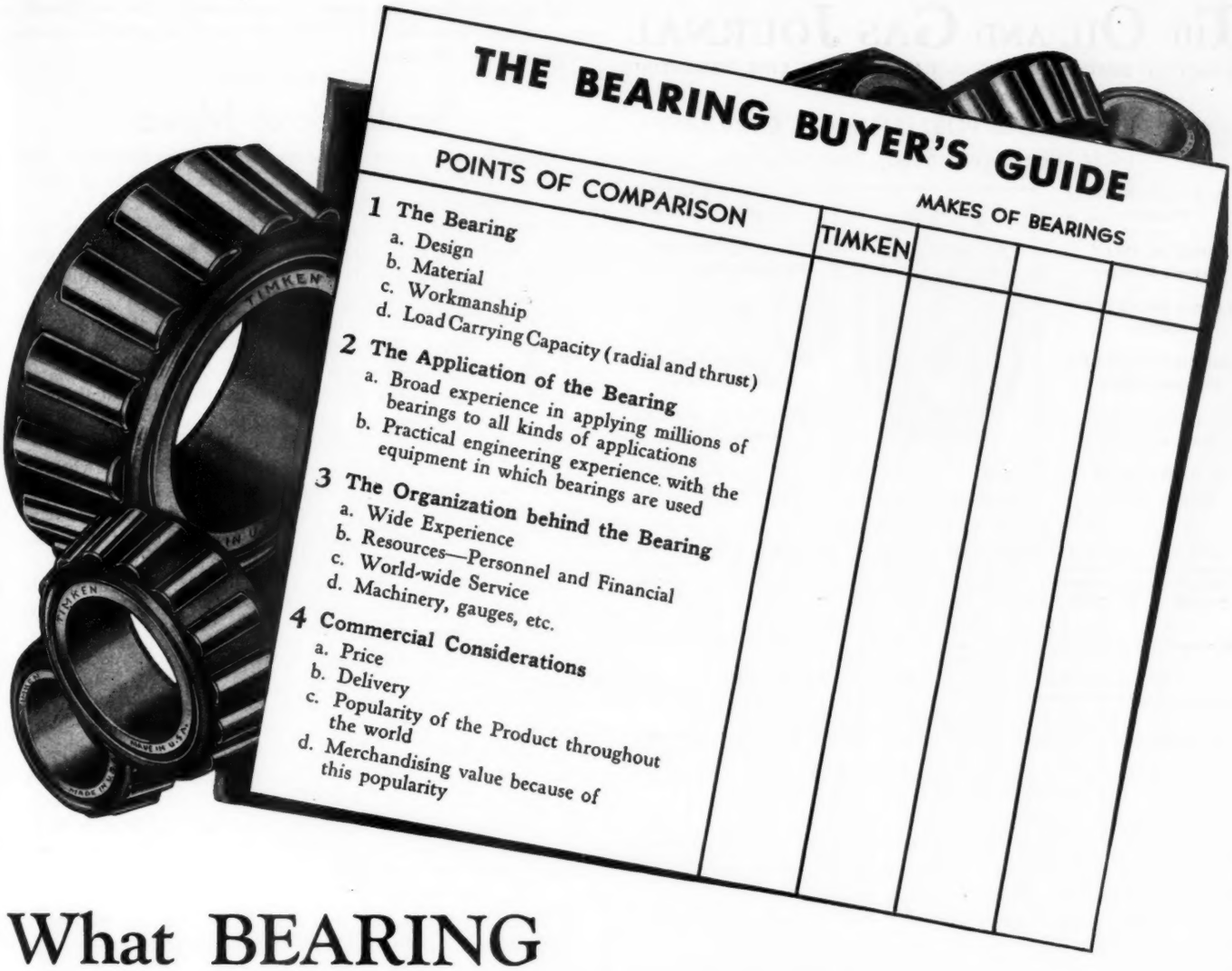
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b. Material
c. Workmanship
d. Load Carrying Capacity (radial and thrust)
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To enable you to avoid this we have created a buyer's guide, the use of which will place your bearing comparisons on a practical, efficient and fair basis. This is in the form of a table listing all of the points that should be considered.

In using it, each of the different makes of bearings under consideration is given a plus or minus rating opposite each of the points listed. Obviously your best bet would be the bearing having the highest percentage of pluses (and also naturally the oil field equipment using that bearing).

It will pay you to use this guide when in doubt as to the bearings you should specify for rig fronts, hoists, swivels, rotaries, gas and steam engines and pumps of all types.

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THE OIL AND GAS JOURNAL

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Outlook for 1934

The oil industry has had many false starts toward recovery during the four years of general depression. But when we seemed about to turn the corner or began to hope the crisis was passing some new twist in the oil situation upset all calculations.

So, when late in the summer prices ceased to decline and even advanced a little there were more skeptics than believers that we were at last on our way out. This persisted, to a large extent, as delay after delay was encountered in getting the code started and the controversy over price fixing dragged on.

But as overproduction of crude dropped and crude prices held, even in the face of continued difficulties in the refined market, and it became clear that Administrator Ickes means business, doubts have been dispelled and skepticism routed.

The improvement in the oil situation was aided by the remarkable revival in the automobile industry as public sentiment rebounded from bleak pessimism to renewed faith in the future. This was reflected in a 43 per cent increase in motor vehicle production to supply the returning demand and the National Automobile Chamber estimates a similar increase in 1934. Even this may be exceeded because of the increasing age of cars necessitating replacement so long deferred.

The appearance of new cars in use was mirrored in the immediate checking of the decline in gasoline consumption. With the revival of car buying gasoline demand is certain to resume its upward curve.

The progress already made and held in the oil situation and the prospects for eventual stabilization are now accepted as definite assurance upon which the industry can go forward into the new year.

Delays in procedure at Washington are no longer regarded as imperilling the program. The industry is wisely going ahead on the existing basis, confident that difficulties will be ironed out and that there will be no step backward.

Next to this confidence of the outcome at Washington the strongest factor in promoting co-operation in carrying out the program has been the demonstrated improvement in conditions within the industry following the new policy. Earnings replacing deficits have been eloquent missionaries for further and continued co-operation.

Out of it all there has come an improvement that everybody can see and a confidence that faces 1934 with every expectation of a happy new year in the oil industry.

Senator Borah Misled

Senator Borah's reply to Administrator Ickes' request that he write "specifically and in detail" his objections to the proposed oil marketing agreements offers only one specific detail.

Assuming that the senator has verified his figures let us take his opening statement that "since June 1, 1933, the prices for gasoline alone, have increased $486,000,000, while the costs superinduced by the code are only $125,000,000 annually."

Mr. Borah thus seems to have the curious idea that prices should be limited to the additional costs caused by the code, a not uncommon notion but hardly to be expected from a student of affairs.

If the recovery program is to be limited to putting additional men to work and permitting price increases to pay only them, how is that going to help a business already running at a loss?

Where is the money coming from to pay those who were on the payroll before the code was adopted?

If business had been able to pay its way before the code it would have needed no recovery program. It was the fact that the country's business was in a hole that called for the recovery act.

It was not simply a question of providing pay for additional men put to work. It was the problem of enabling existing business to resume making a living profit.

No better illustration can be found than that offered by the condition of the oil industry.

Assuming that the increase in the price of gasoline had been $486,000,000 since June 1, 1933, the senator overlooks or does not know that on June 1, 1933, the price of gasoline was $1,050,000,000 less than on June 1, 1929; yet there was no senatorial outburst about gasoline prices then.

But if it be objected that 1929 was exceptional in general prices Mr. Borah's attention is respectfully directed to the fact that the price of gasoline on June 1 last was $400,000,000 less than it was a year before, June 1, 1932.

He is invited to consider that in 1929 gasoline had not shared in the general price increase in all other lines, because of the conditions which the oil code is now designed to remedy.

An industry getting a billion dollars a year less than normal for its products, or $400,000,000 less than in 1932 when the depression was reaching its worst and conditions in the oil industry were most chaotic, could not be lifted out of the hole by a price increase of $125,000,000 earmarked for only new employes.

This seems to dispose of the Senator's one "specific detail" in his reply to Mr. Ickes which is otherwise occupied with familiar assertions unsupported by proof that the industry is in danger of being "put into the hands of a small group representing the big interests."

If there was any such danger it must be admitted that the present governmental supervision of the oil industry is the very best guarantee of protection against it. It would seem, too, that if there was any such danger the Planning and Co-ordination Committee would have seen it more quickly than a senator from Idaho.

The fact that all the various elements in the industry represented on that committee have agreed upon the proposals which Mr. Borah criticizes as likely to lead to monopoly is a sufficient proof that no such danger exists.

The assertions made by Mr. Borah are exactly the same as those put out by the price cutters in the oil business. Their hastily organized associations of alleged "independents," whose sole idea of "independence" is to chisel a profit even if it ruins every other man in the business, have been marshaled to mislead Congress and the public into thinking these noisy elements are an integral part of the oil industry.

Senator Borah should be too familiar with political history to allow himself to be used by modern imitators of the three tailors of Tooley Street whose resolution proclaimed themselves "We, the People of England."

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Market in Group 3 Territory Presents a Brighter Picture Than One Seen at Opening of 1933

By T. F. SMILEY

While it is conceded without hesitation that refiners and marketers of oil products have reason for a growl or two and that the situation at the present moment is marked by perplexities and uncertainties, the cheering fact remains that the opening of 1934 sees a distinctly brighter picture than did the corresponding period of 1933.

Trouble and misgiving hung over the oil markets a year ago too, and it is safe to say that refiners and distributors are looking into the future with less foreboding than they did in January, 1933.

And why not?

It would be difficult, perhaps impossible, to find anybody in the business of refining or distributing petroleum products who does not believe that clouds which now shadow this division of the oil industry will begin to vanish within a relatively short time.

It is possible to lay one's finger definitely upon major factors in the existing unsatisfactory market and at the same time to see remedial agencies at work. The market with which 1933 opened was weaker than the present one and it was not accompanied by the hopeful signs which today are easily discernible.

Benefiting From General Revival

For one thing, the discouragements that attended the oil markets of January, 1933, were enmeshed with the demoralized conditions and low state of mind which characterized all business. In January, 1934, nobody denies that the world is emerging from the morass in which it floundered for four years and that oil is benefiting from the general revival of trade and the better feeling which permeates all economic areas.

For another, specific measures are pending looking to amelioration if not complete removal of certain generally recognized ills, including excessive stocks of refinery products, destructive marketing practices and connivance between a few refiners and a few hot-oil producers in the East Texas Field to defeat efforts to bring the output of both crude and its derivatives into line with demand.

Gasoline prices in January, 1933, substantially below those ruling today, were headed for even lower levels, but there is pretty general agreement that in their slow descent which began in late October, 1933, these prices probably have reached bottom and that an upswing is near at hand.

Better Conditions Ahead Seen

It is of significance that such strength as has been exhibited by the gasoline market in Group 3 territory in recent months is attributable to belief that prices will be stabilized through restriction of refinery operation to consumer demand and that vicious marketing practices would be eliminated, these corrective measures to be effected either through governmental intervention or through positive action taken within the industry itself.

It becomes clear why refiners and distributors are fairly cheerful in the midst of an admittedly laggard market. While delays have produced irritation and have created unfortunate conditions that inevitably accompany uncertainty, it is regarded as sure that within the next few weeks there will come out of Washington an announcement which will clear the atmosphere and enable the refiner and the marketer to make plans reasonably safe from the danger of being wrecked by unforeseen developments. Jobbers right at this juncture are showing no haste to fill their tanks, not so much because they fear further subsidence of prices as because they see no reason for tying up capital and inviting inventory losses. Their disposition to do little large-scale buying is likely to continue until a clarified situation points definitely to ascending prices.

One cause of market nervousness was removed this week when the half-cent Federal emergency tax was dropped. Up to the close of the year jobbers refrained from buying any gasoline which might have to remain in their tanks over December 31, for the reason that the half-cent tax, which they paid the refiner, could not be passed on to the distributor after that date. Retailers generally cut a half cent from their service station prices.

Naturals Looking Up

Notwithstanding that another eighth of a cent was chopped off the price of the 26-70 grade of natural gasoline, belief was expressed that like the refinery product it had touched bottom. Evidence of better demand was observable, especially for the 18-pound material, largely used by refiners for mixing with regular-grade gasoline in the proportion of 25 per cent and with third grade in the proportion of 50 per cent, to make a high-grade motor fuel for winter use. It was pointed out that in California the price of natural gasoline had advanced a half cent.

The demand for kerosene was a little stronger, but not enough to affect quotations.

The cold weather which fell upon wide areas of the country in the last week did not have such a stimulating effect on prices for heating oils as might have been expected. It became apparent that buyers of these products had filled their storage last summer when prices were low.

Naphthas, gas oils, neutrals and bright stocks were unchanged.

Refined Oil Market Barometer

Although there is general expectancy of an increased volume of buying by jobbers to replenish stocks, the market lacks spirit and observers see no likelihood that this inaction will end until the several factors creating uncertainty about the future have been removed. Dropping of the half-cent Federal tax on gasoline January 1 was followed by a half-cent reduction in prices by most companies.

Mid-Continent—Prices on both refinery and natural gasoline sag, but buying slightly better.

East Coast—No price changes. Sellers look for more activity.

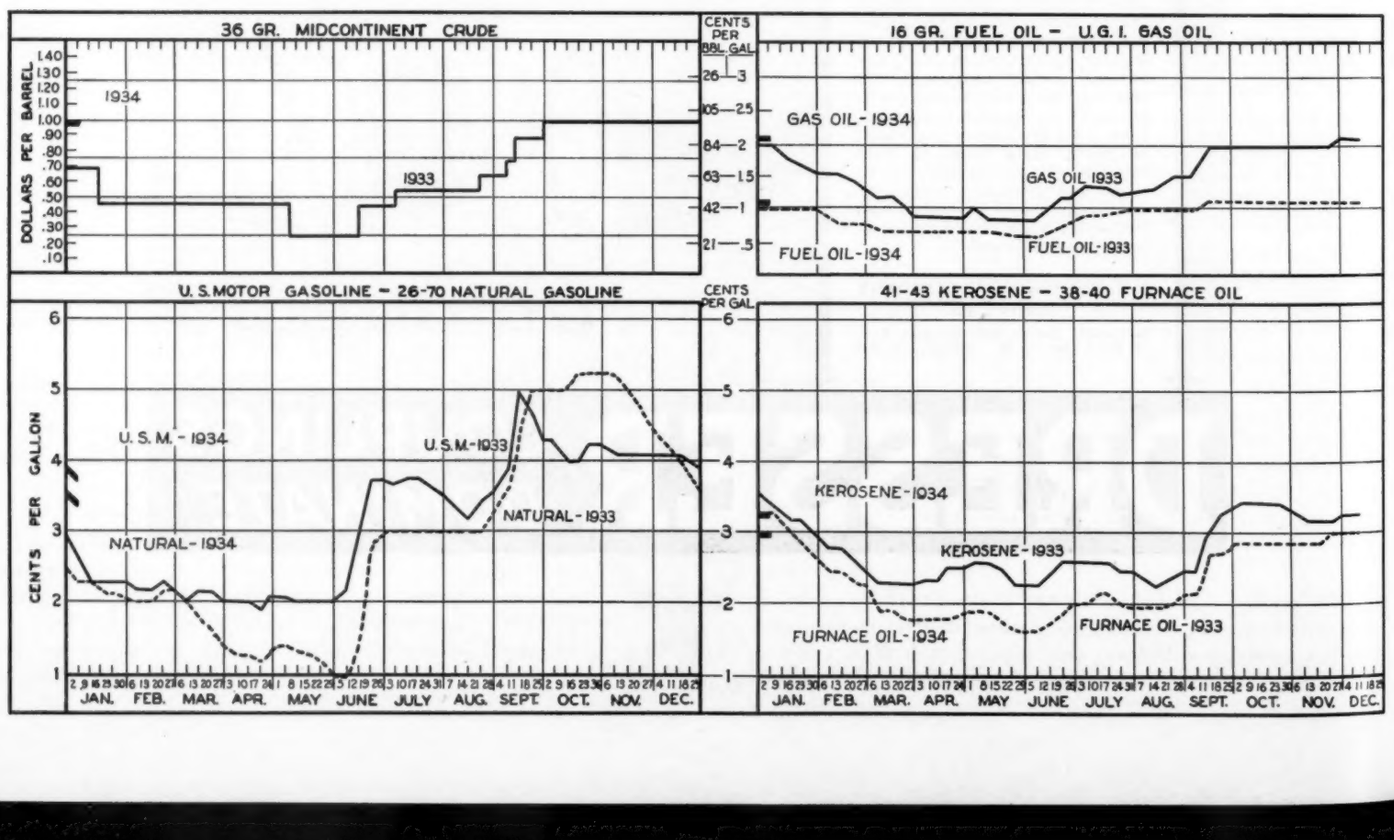
Gulf Coast—Whole list dull. Prices unchanged. January expected to see improvement.

Pennsylvania—Gasoline and kerosene lower.

California—Refinery and natural gasoline strong, with prices advanced. Gas oil up.

Chicago—Higher tank car prices for gasoline seen and orders arriving for early January shipment. Kerosene sluggish.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



East Coast Starts New Year Confident That Next 30 Days Will See Better Refinery Market

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, Jan. 2.—A new month and a new year start in the eastern refinery markets with a majority of the trade confident that the next 30 days at least will see an improvement in volume of business with firm or advancing prices in the several products available to the wholesale buyers. December was brought to a close with a continuance of the holiday dullness in trading which characterized most of the month. This dullness is one of the reasons why sellers are predicting greater activity in January, the assumption being that many of the buyers will supplement their January purchases with buying which normally would have materialized in December.

Having in mind the dire results of overconfidence in the past, the oil industry in this section is tempering its optimism with caution with the realization that a few weeks of uncontrolled operations could easily undo the improved conditions that have been brought about in recent months through the actions of the Federal Government and the industry itself. Assuming that the efforts to balance the supply and demand for petroleum products will continue, the trade here feels that the refinery wholesale market will gradually reflect this improved basic condition with weak spots eliminated and a firm price structure in line with the objective announced at the time the industry inaugurated its program of placing the oil industry on a profitable basis.

On the whole, prices for representative refinery products at East Coast refineries start 1934 at higher levels than were effective at the start of 1933. This comparative situation based on New York prices is shown in the accompanying table.

While the change in gasoline and kerosene prices as between this year and last are of minor importance, the increases in fuel oil, gas oil, lubricants and wax are substantial and are materially aiding the earning statements of several refining organizations. A study of these prices, however, over a period will show that they are below average in most cases and higher prices are necessary in the case of the light end products which were brought to abnormally low levels due to the long period of overproduction.

NEW YORK PRICES JANUARY 1

	1934	1933
U. S. Motor gasoline, regular (per gallon)	$0.06¼	$0.05¾
41-43 Kerosene (gallon)	.05½	.05½
Bunker fuel oil (bbl.)	1.20	.75
28 Plus gas oil (gallon)	.04	.03½
600 Steam refined cylinder stock (gallon) export f.a.s. in bbls.	.25½	.19
Bright stock No. 8 color (gallon) export f.a.s. in bbls.	.31½	.24
125-127 Petroleum wax (lbs.)	.0455	.0275

Above prices are for domestic movement from refineries unless otherwise noted.

Gasoline Situation

It is anticipated that the gasoline movement to the bulk stations of refinery owned and jobber facilities will increase immediately. This is due to the fact that the one-half cent Federal emergency tax ended December 31. This tax is paid by refiners and applies to all shipments, becoming due when the gasoline leaves the plants. The refiners since the tax became effective have added the tax to the refinery price. Jobbers in anticipation of the tax ceasing to be effective have reduced their purchases.

Just how important this development, which has been stressed by market observers for several weeks, will prove to be remains to be seen. If stocks were low at refineries, which is not the case in this territory, the heavy demand could result in price advances. It is said that the recent increases in crude runs to stills at refineries has been in part due to the expectation of a heavy tank car movement after the first of the year.

The export gasoline market is also expected to show more activity early in January. There were practically no inquiries in the market over the past two weeks. The Federal gasoline tax is not a factor in this situation as the tax does not apply to gasoline shipped to foreign buyers.

January Operations

Interest was manifested in trade circles regarding the market significance of the order adopted by the Planning and Co-ordination Committee last week with respect to inventories and production of gasoline in the United States for January. For the East Coast area the order provides for the production of 5,300,000 bbls. of gasoline during the month with the proviso that total stocks at refineries, bulk terminals, in transit and pipe lines should not exceed 14,550,000 bbls.

The committee's order does not give additional detail as to how this operation shall be brought about except that all refiners shall adjust the operations of their plants so that this objective in regard to operations can be accomplished by the end of the month. Through a study of the weekly reports of the American Petroleum Institute and the monthly reports of the Bureau of Mines it is possible to approximate the reductions in crude runs to stills which will be necessary in this territory in order that East Coast refiners can carry out their part in the plan which covers the entire United States.

The latest available report of the Bureau of Mines covering October, 1933, shows that the average recovery of gasoline from crude oil at East Coast plants is 43 per cent. Applying the same yield for January and the 5,300,000-bbl. production allotted to the East Coast operators means that 12,325,000 bbls. of crude oil can be refined during the month. This is a daily average of 397,500 bbls. During October these same refiners averaged 462,500 bbls. daily at their plants according to the government report. According to the weekly reports of the American Petroleum Institute the daily average crude runs to stills for the week ending December 23 were 478,000 bbls., for the week ending December 16, 440,000 bbls., and for the week ending December 9, 420,000 bbls.

It is apparent from these data that January operations in this territory must be materially reduced to comply with the P. and C. committee program. There is the additional fact that some adjustment will have to be made in regard to stocks. Gasoline stocks at East Coast refineries and terminals on December 23 totaled 15,023,000 bbls. The stocks at the close of the year were not known at this writing, but with the steady increase which characterized early December operations it would not be surprising if inventories totaled 15,550,000 bbls. at the close of the year in this territory. The government plan provides that these inventories should be reduced to 14,550,000 bbls. at the end of January. This reduction of 1,000,000 bbls. in gasoline stocks interpreted in crude oil runs to stills would mean an additional reduction of 75,000 bbls. daily. Similar reduction will have to be made in some of the other refining territories.

Prices

Prices on all products were steady over the past week. The low temperatures prevailing throughout the East has decreased the consumption of gasoline, but it has aided the demand for all grades of fuels and kerosene. Sellers generally have not reduced their tank car prices on gasoline and they also have not advanced their quotations on residual fuels, gas oils and furnace oil distillates. Supplies of all these products are said to be adequate despite the heavy consumer demand.

American Petroleum Institute Weekly Refinery Statistics

Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Total motor fuel stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

Week Ending December 30, 1933, Compared to Week Ago

	—Week Ending Dec. 23, 1933—			
	(1)	(2)	(3)	(4)
East Coast	100.0	478,000	15,023,000	7,120,000
Appalachian	92.6	89,000	2,095,000	1,058,000
Ind., Ill., Ky.	97.3	288,000	6,807,000	4,421,000
Okla., Kans., Mo.	82.1	201,000	5,474,000	3,744,000
Inland Texas	60.2	82,000	1,220,000	1,715,000
Texas Gulf	98.1	449,000	4,980,000	6,144,000
La. Gulf	100.0	105,000	1,471,000	1,732,000
N. La. and Ark.	92.6	47,000	229,000	540,000
Rocky Mtn.	78.8	32,000	874,000	706,000
California	96.9	443,000	13,585,000	92,021,000
Total U. S.	92.4	2,214,000	51,758,000	119,201,000

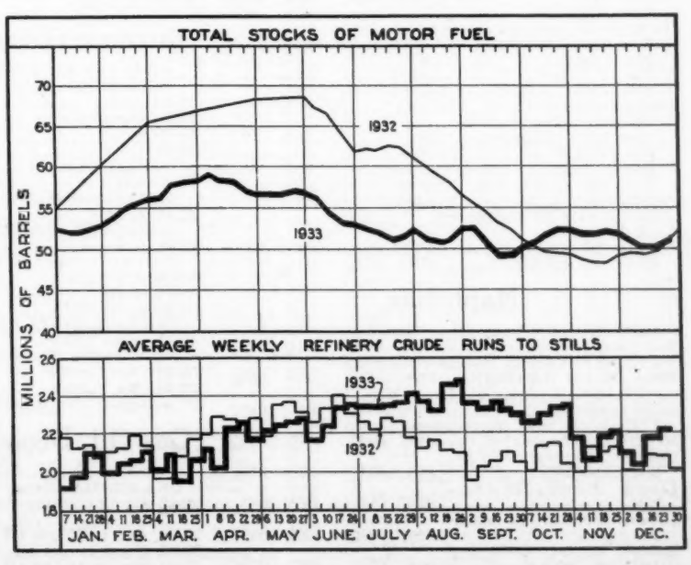
On account of New Year holiday refinery figures were not compiled in time for publication.

(Estimates on total motor fuel stocks, Bureau of Mines basis, temporarily discontinued)

Week Ending December 30, 1933, Compared to Year Ago

	—Week ending December 31, 1932—			
	(1)	(2)	(3)	(4)
East Coast	99.1	438,000	12,683,000	8,157,000
Appalachian	95.0	69,000	1,809,000	823,000
Ind., Ill., Ky.	97.5	246,000	6,963,000	3,387,000
Okla., Kans., Mo.	84.9	138,000	4,845,000	2,755,000
Inland Texas	56.4	77,000	1,544,000	2,045,000
Texas Gulf	97.7	422,000	6,046,000	7,595,000
La. Gulf	97.3	71,000	1,292,000	2,652,000
N. La. and Ark.	88.5	42,000	804,000	473,000
Rocky Mtn.	90.8	23,000	1,142,000	466,000
California	94.6	435,000	15,610,000	99,283,000
Total U. S.	91.6	2,011,000	52,339,000	127,636,000

On account of New Year holiday refinery figures were not compiled in time for publication.



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

The following quotations are exclusive of the Federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasolines

OKLAHOMA (Group 3)—	Jan. 2		Dec. 26	
U. S. Motor grades:				
Below 60 octane	.03¾	.03⅞	.03⅞	.04
60-64.9 octane	.04½	.04¾	.04⅝	.04⅞
65-69.9 octane	.05	.05¼	.05⅛	.05⅜
70 octane and higher	.05¼	.05½		
60-62 400 grades:				
Below 60 octane	.03⅞	.04	.04	.04⅛
60-64.9 octane	.04⅝	.05⅛	.04¾	.05¼
65-69.9 octane	.05¼	.05⅜	.05⅜	.05½
70 octane and higher	.05⅛	.05¾		
64-66 375	.04½	.04¾	.04¾	.05
68-70 360	.05⅛	.05¼	.05⅛	.05¼
NORTH TEXAS—				
U. S. Motor grades:				
Below 60 octane	.03⅞	.04	.03⅞	.04
60-64.9 octane	.04½	.04⅞	.04½	.04⅞
65-69.9 octane	.05⅛	.05⅜	.05⅛	.05⅜
70 octane and higher	.05⅜	.05⅞		
60-62 400	.03⅞		.04	
64-66 375	.04⅝		.04¾	
64-66 360	.05	.05½	.05⅛	.05¼
NORTH LOUISIANA (Ark., No. La. & Miss. del.)—				
U. S. Motor grades:				
Below 60 octane	.04½		.04¾	
60.64.9 octane	.05½		.05½	
65-69.9 octane	.06		.06	
70 octane and higher	.06¼			
60-62 400	.04½		.04½	
ARKANSAS (Ark., No. La. & Miss. del.)—				
U. S. Motor grades:				
Below 60 octane	.04½		.04¾	
60-64.9 octane	.05½		.05⅜	
65-69.9 octane	.06		.06	
70 octane and higher	.06¼			
CHICAGO (based on Oklahoma Group 3)—				
U. S. Motor grades:				
Below 60 octane	.03⅞	.04⅛	.03⅞	.04⅛
60-64.9 octane	.04⅝	.04⅞	.04¾	.04⅞
65-69.9 octane	.05	.05¼	.05¼	.05⅜
70 octane and higher	.05¼	.05½		
60-62 400	.04	.04¼	.04	.04¼
64-66 375	.04⅞	.05	.04¾	.05
68-70 360	.05⅛	.05¼	.05	.05¼
Aviation fighting grade	.05½	.05¾	.05⅜	.05⅞
PENNSYLVANIA (inland refineries)—				
58-62 U. S. Motor:				
Below 60 octane	.05¼		.05⅜	
60-64.9 octane	.06⅜		.06½	
65-69.9 octane	.06¾		.06⅞	
70 octane and higher	.07⅛		.07¼	
64-66 375	.06⅛		.06½	
68-70 350	.06¼	.06½	.06⅜	.06⅝
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.07	.08¾	.06	.08
58-60 400	.07¾	.09½	.06½	.08½
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.06¼		.06¼	
Philadelphia	.06¼		.06¼	
Boston	.0640		.0640	
Baltimore	.06¼		.06¼	
Charleston, S. C.	.06¼		.06¼	
U. S. Motor, 65 and above:				
New York (Bayonne)	.06½		.06½	
Philadelphia	.06½		.06½	
Boston	.0670		.0670	
Baltimore	.06½		.06½	
Charleston, S. C.	.06½		.06½	
GULF COAST (domestic)—				
U. S. Motor:				
Below 65 octane	.04¼	.04½	.04¼	.04½
65 octane and higher	.05¼	.05½	.05¼	.05½

Naphthas

OKLAHOMA (Group 3)—	Jan. 2		Dec. 26	
50-52 450 (blending)	.04⅛	.04¼	.04⅛	.04¼
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.05⅜	.05½	.05⅜	.05½
ARKANSAS (Ark., No. La. & Miss. del.)—				
48-50 (blending)	.04½	.04¾	.04½	.04¾
CHICAGO (based on Oklahoma Group 3)—				
50-52 450 (blending)	.04⅛	.04½	.04¼	.04⅜
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.06⅝	.07¼	.06⅞	.07¼
Lacquer diluent, 180 i.b.p.-250 e.p.	.07⅝	.08¼	.07¾	.08¼
Lacquer diluent, 140 i.b.p.-200 e.p.	.08¾	.09¼	.08¾	.09¼
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.06¾	.07¼	.06⅞	.07⅝
Stoddard solvent, 300 i.b.p.-410 e.p., over 83° flash	.06¼	.06⅝	.06⅜	.06½
Pet. thinner, 290-300 i.b.p.-415 e.p., over 83° flash	.06¼	.06½	.06⅛	.06¼
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06¾	.07	.06¾	.07
Petroleum spirits	.05¾	.06¼	.05⅞	.06⅛

Natural Gasolines

OKLAHOMA (Group 3)—	Jan. 2		Dec. 26	
Grade 26-70	.03⅜		.03½	
Grade 18-55	.04⅛	.04¼	.04⅛	
Low vapor pressure grades:				
15 lb. v.p. (max.)	.04½	.04⅝	.04⅝	.04¾
11 lb. v.p. (max.)	.05	.05¼	.05	
NORTH TEXAS—				
Grade 26-70	.03¼		.03⅜	
Grade 18-55	.04	.04⅛	.04¼	.04⅜
Low vapor pressure grades:				
15 lb. v.p. (max.)	.04⅜	.04½	.04½	.04⅝
11 lb. v.p. (max.)	.05	.05⅛	.05	
NORTH LOUISIANA—				
Grade 26-70	.03¾		.03¾	
CALIFORNIA—				
75-85 375	.05½	.06¼	.05	.06

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	Jan. 2		Dec. 26	
41-43	.03¼	.03½	.03¼	.03½
42-44	.03½	.03⅝	.03½	.03⅝
NORTH TEXAS—				
40-41	.03⅛	.03¼	.03⅛	.03¼
41-43	.03¼	.03⅜	.03¼	.03⅜
NORTH LOUISIANA (Ark., No. La. & Miss. del.)—				
41-43	.03¾		.03¾	
42-44	.04		.04	
ARKANSAS (Ark., No. La. & Miss. del.)—				
41-43	.03¾		.03¾	
PENNSYLVANIA (inland refineries)—				
45	.04½		.04⅝	
46	.04¾		.04⅞	
47	.05		.05⅛	
CHICAGO (based on Oklahoma Group 3)—				
41-43	.03¼	.03½	.03¼	.03½
42-44	.03⅜	.03½	.03⅜	.03½
CALIFORNIA (Pacific Coast consumption)—				
38-40 high burning test	.04¼	.04¾	.04¼	.04¾
NEW YORK (Bayonne)—				
41-43	.05½		.05½	
GULF COAST (domestic)—				
41-43	.04½		.04¾	

Petroleum Coke

Prices per ton f.o.b. refineries in Chicago area. (Refineries will absorb freight to 80 cents a ton)

	Jan. 2	Dec. 26
Breeze (screenings)	5.50	5.50
Pile run	5.50	5.50
Direct from still	6.50	6.50
Lump and egg	8.00	8.00

Furnace Oils and Tractor Fuels

(Zero cold test under 190° flash and good odor)

OKLAHOMA (Group 3)—	Jan. 2		Dec. 26	
32-36 straw	.03	.03⅛	.03	.03⅛
36-38 straw	.02⅞	.03	.02⅞	.03
38-40 straw	.03	.03½	.03	.03⅛
39-41 prime	.03⅛	.03¼	.03⅛	.03¼
NORTH TEXAS—				
38-40 straw	.02⅞	.03	.02⅞	.03
NORTH LOUISIANA (Ark., No. La. & Miss. del.)—				
36-40 furnace oil	.03		.03	
ARKANSAS (Ark., No. La. & Miss. del.)—				
32-36 furnace oil	.03⅛		.03⅛	
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.03¼	.03⅜	.03⅛	.03¼
38-40 straw	.03⅛	.03⅜	.03⅛	.03¼
38-40 prime white	.03¼	.03½	.03¼	.03⅜
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.03⅛	.03¼	.03⅛	.03¼
NEW YORK (Bayonne)—				
36-40 (No. 1 grade)	.05½		.05½	.06
32-36 (No. 2 grade)	.04½		.04½	.05
21 industrial (No. 4 grade)	.04		.04	.04½

Gas Oil, Diesel Oil and Fuel Oil

(Gas oil per gal.; Diesel and fuel oils per bbl.)

OKLAHOMA (Group 3)—	Jan. 2		Dec. 26	
32-36 gas oil cracking stock	.01⅞	.02⅛	.01⅞	.02⅛
U.G.I. gas oil	.02⅛		.02⅛	
32-36, zero to 15 gas oil	.02⅞	.03	.02⅞	.03
28-30, No. 3 burner oil	1.05	1.10	1.05	1.10
28-30, zero to 10 fuel oil	.95	1.00	.95	1.00
26-30, zero to 10 fuel oil	.85	.95	.85	.95
24-26 fuel oil	.65	.70	.65	.70
20-22 fuel oil	.55	.60	.55	.60
Below 16 fuel oil	.50	.55	.50	.55
NORTH TEXAS—				
32-36 gas oil, industrial	.02		.02	
22-26 fuel oil	.57½	.62½	.57½	.62½
Below 20 fuel oil	.47½	.50	.47½	.50
NORTH LOUISIANA (Ark., No. La. & Miss. del.)—				
32-36 gas oil, zero	.03		.03	
14-16 fuel oil	.65	.70	.65	.70
ARKANSAS (Ark., No. La. & Miss. del.)—				
30-32 gas oil, zero	.02¾		.02¾	
32-36 gas oil	.03		.03	
14-16 fuel oil	.65	.70	.65	.70
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.01⅞	.02	.01⅞	.02
28-30 zero to 10, fuel oil	.95	1.05	.95	1.05
26-28 zero to 10, fuel oil	.80	.85	.80	.85
22-26 zero to 10, fuel oil	.70	.75	.70	.75
18-22 zero to 10, fuel oil	.60	.65	.60	.65
Below 18 fuel oil	.40	.45	.40	.45

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all these areas.

PENNSYLVANIA (inland refineries)—				
36-40	.04	.04¼	.04	.04¼
CALIFORNIA—				
30-34 gas oil per bbl.	1.00	1.07	.95	1.05
27 plus Diesel	1.00	1.07	.95	1.05
15-19 bunker (at tidewater)	.60	.70	.55	.65
15-19 (cargo lots)	.55	.65	.55	.65
15-19 (tank cars)	.45	.65	.45	.65
GULF COAST—				
28-30 gas oil	.03¾		.03¾	
28-30 Diesel	1.80		1.80	
Bunker C (bulk cargoes)	.92½	.95	.92½	.95
Bunker C (bunkers)	1.05		1.05	
NEW YORK (Bayonne)—				
28 plus, gas oil	.04	.04¼	.04	.04¼
28-30 Diesel (lighterage 6½ cents per bbl.)	1.95		1.95	
28-30 Diesel (tank cars)	.04½		.04½	
*Bunker C (to ocean-going ships in N. Y. harbor)	1.20		1.20	

*Lighterage charge 5 cents per barrel additional.

Neutral Oils

(Vis. at 100° F. except Pennsylvania, and color N.P.A.)

OKLAHOMA (Group 3)—	Jan. 2		Dec. 26	
Zero to 10 Cold Test:				
150-3	.07¼	.07½	.07¼	.07½
180-3	.08½	.08¾	.08½	.08¾
180-4	.08¼	.08½	.08¼	.08½
200-3	.09	.09¼	.09	.09¼
200-4	.08¾	.09	.08¾	.09
240-3	.11	.11¼	.11	.11¼
240-4	.10¾	.11	.10¾	.11
280-3	.12	.12¼	.12	.12¼
280-4	.11½	.11¾	.11½	.11¾
300-3½	.12¾	.13	.12¾	.13
350-3½	.13¾	.14	.13¾	.14
400-4	.14¾	.15	.14¾	.15
500-4½	.15¾	.16	.15¾	.16
100-2 paraffin oil	.05	.05¼	.05	.05¼
15-30 Cold Test:				
200-3	.08	.08¼	.08	.08¼
200-4	.07¾	.08	.07¾	.08
240-3	.10	.10¼	.10	.10¼
240-4	.09¾	.10	.09¾	.10
280-3	.11	.11¼	.11	.11¼
280-4	.10¾	.11	.10¾	.11
GULF COAST—				
Pale Oils:				
200-3	.06¼	.06½	.06¼	.06½
300-3	.07	.07½	.07	.07½
500-3½	.08		.08	
750-3½	.08½	.09	.08½	.09
1,200-3½	.09½		.09½	
2,000-4	.10¼	.10½	.10¼	.10½
Red Oils:				
200-5-6	.05½		.05½	
300-5-6	.06	.06½	.06	.06½
500-5-6	.06¾	.07¼	.06¾	.07¼
750	.07½	.08	.07½	.08
1,200-5-6	.08¼	.08¾	.08¼	.08¾
2,000 6 plus	.09½	.09¾	.09½	.09¾
CALIFORNIA—				
Pale Oils:				
100-2½-3	.23	.25	.23	.25
200-2½-3	.23	.25	.23	.25
300-3-3½	.23	.25	.23	.25
350-3-4	.23	.25	.23	.25
400-3-4	.23	.25	.23	.25
450-3-4	.23	.25	.23	.25
550-3-4	.23	.25	.23	.25
600-3-4	.23	.25	.23	.25
Red Oils:				
200-4-5	.23	.25	.23	.25
300-5-6	.23	.25	.23	.25

350-5-6	.23	.25	.23	.25
400-5-6	.23	.25	.23	.25
450-5-6	.23	.25	.23	.25
500-5-6	.23	.25	.23	.25
600-5-6½	.23	.25	.23	.25
700-6½ plus	.23	.25	.23	.25
750-6½ plus	.23	.25	.23	.25
900-6½ plus	.23	.25	.23	.25
PENNSYLVANIA—				
150 vis. at 70° F., 3 color; 400-405 flash:				
Zero pour test	.21½	.21¾	.21½	.21¾
10 pour test	.20¾	.21	.20¾	.21
15 pour test	.19¾	.20	.19¾	.20
25 pour test	.19	.19¼	.19	.19¼
180 vis. at 70° F., 3 color;				
25 pour test	.22	.22¼	.22	.22¼
200 vis. at 70° F., 3 color:				
Zero pour test	.27¼	.27½	.26¾	.27
10 pour test	.26	.26¼	.25½	.25¾
15 pour test	.25	.25¼	.24½	.24¾
25 pour test	.24½	.24¾	.24	.24¼

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Jan. 2		Dec. 26	
630 light green	.11	.14	.11	.14
600 light green S.R.	.07	.09	.07	.09
600 dark green S.R.	.05	.07	.05	.07
Bright Stocks:				
190-200 D	.24	.25	.24	.25
150-160 D, 0-10	.22¼	.22½	.22¼	.22½
150-160 D, 10-25	.21¾		.21¾	
150-160 D, 25-40	.21¼		.21¼	
150-160 E	.21¼		.21¼	
PENNSYLVANIA—				
600 S.R.	.15½		.15½	
650 S.R.	.18	.18½	.18	.18½
600 Pennsylvania flash	.18	.18½	.18	.18½
600 Warren E filtered	.19¼		.19¼	
Pennsylvania Grade bright stock:				
No. 8 color, 145-50 at 210; 540-550 flash:				
10 pour test	.27½		.27½	
15 pour test	.26	.26½	.26	.26½
20 pour test	.25¼	.25¾	.25¼	.25¾
25 pour test	.25	.25½	.25	.25½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Jan. 2		Dec. 26	
124-126 white crude scale	.03¾		.03¾	
PENNSYLVANIA—				
122-124	.0410	.0415	.0415	.0420
124-126	.0415	.0420	.0420	.0425
NEW YORK HARBOR—				
124-126 crude scale	.03⅞	.04	.04	.04⅛
Fully refined wax, in bags:				
120-122 (a.m.p.)	.0430		.0430	
123-125 (a.m.p.)	.0445		.0445	
125-127 (a.m.p.)	.0455		.0455	
130-132 (a.m.p.)	.0495		.0495	
133-135 (a.m.p.)	.0555		.0555	
135-137 (a.m.p.)	.0580		.0580	
Petrolatum in barrels in carload lots:				
Dark green	.01⅞	.02	.01⅞	.02
Amber	.02⅞	.03	.02⅞	.03
Extra amber	.03⅛	.03¼	.03⅛	.03¼
Lily white	.06¾	.06⅞	.06¾	.06⅞
Snow white	.07¾	.07⅞	.07¾	.07⅞
Cream	.05⅝	.05¾	.05⅝	.05¾
CHICAGO (f.o.b. switching district)*—				
122-124 wax	.0465	.0475	.0465	.0475
125-127 wax	.0490	.0500	.0490	.0500
127-129 wax	.0505	.0515	.0505	.0515
130-132 wax	.0565	.0575	.0565	.0575
132-134 wax	.0590	.0600	.0590	.0600

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx. Add 3° F., a.m.p.

Export Prices

GASOLINE

GULF COAST—	Jan. 2		Dec. 26	
U. S. Motor	.05¼	.05⅜	.05¼	.05⅜
60-62 400	.05½		.05½	.05⅝
61-63 390	.05⅝		.05⅝	.05¾
64-66 375	.05¾		.05¾	.06
LOS ANGELES, CALIF.—				
U. S. Motor grades:				
53-55 octane	.04½	.04¾	.04½	.05
55-65 octane	.04¾	.05	.05	.05¼
65-67 octane	.05	.05¼	.05½	.06
67-69 octane	.05¼	.06	.06¼	.06¾
Above 69 octane	.06¼	.07	.07	.08
58-60 400 endpoint	.05	.06	.05¼	.06¼
KEROSENE				
GULF COAST—				
41-43 prime white	.04¼		.04¼	
41-43 water white	.04⅝		.04⅝	
44 water white	.04½	.04⅜	.04½	.04⅝
LOS ANGELES, CALIF.—				
41-43 water white	.03¾	.04¼	.03¾	.04¼
LUBRICANTS				
NEW YORK (f.a.s. in bbls.)—				
600 Warren E	.25	.26	.25	.26
600 S.R. unfiltered	.22	.23	.22	.22½
650 S.R. unfiltered	.24½	.25½	.24½	.25½
600 flash S.R.	.25½	.26	.25½	.26
630 flash S.R.	.29½	.30½	.29½	.30½
Bright stock, No. 8 color	.31½	.32½	.31½	.32½
Bright stock, No. 6½ color, dil.	.30½	.31½	.30½	.31½
NEUTRALS				
NEW YORK—Pale Engine Oil, Bulk (vis. at 100)—				
100-2½	.06½	.07	.06½	.07
180-3½	.11	.12	.12	.13
230-3¾	.12	.13	.13	.14
Red Engine Oil, Bulk (vis. at 100):				
200-6	.07½	.08½	.07½	.08½
250-6	.08¼	.08¾	.08	.08¾
300-6½	.09	.09½	.09	.09½
PARAFFIN WAX (Fully Refined)				
NEW YORK (prices per pound)—				
120-122 a.m.p.	.04¼		.04¼	
123-125 a.m.p.	.04⅝		.04⅝	
125-127 a.m.p.	.04½		.04½	
130-132 a.m.p.	.05		.05	
133-135 a.m.p.	.05½		.05½	
135-137 a.m.p.	.05¾		.05¾	

Crude Oil Gravity Table

Degrees gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	5 Carson, Hutchinson and Moore Counties, Texas	6 Conroe, Texas	7 Salt Creek, Wyo.	8 Gulf Coast, Texas and Louisiana	9 Gulf Coast, Texas and Louisiana	10 Caddo, Louisiana	11 Sabine-De Soto, Louisiana	12 Homer, Louisiana	13 Sarepta-Carterville, Louisiana	14 El Dorado, Arkansas	15 Haynesville, Louisiana	16 Miller County, Arkansas	17 Cotton Valley, Louisiana
Below 20	....	....	....	....	....	....	....	$.82	$.82	....	....	....	....	....	....	....	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....	....	....	....	....	....	....	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....	....	....	....	....	....	....	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....	....	....	....	....	....	....	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....	....	....	....	....	....	....	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....	....	....	....	....	....	....	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.63	$.69	$.71	$.75	$.75	$.65	$.62	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.65	.71	.73	.77	.77	.67	.64	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.67	.73	.75	.79	.79	.69	.66	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.69	.75	.77	.81	.81	.71	.68	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.71	.77	.79	.83	.83	.73	.70	.78
Below 29	.84	$.79	0.79	....	....	....	$.84	....	....	....	....	....	....	....	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.73	.79	.81	.85	.85	.75	.72	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.75	.81	.83	.87	.87	.77	.74	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.05	.77	.83	.85	.89	.89	.79	.76	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.79	.85	.87	.91	.91	.81	.78	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.81	.87	.89	.93	.93	.83	.80	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.83	.89	.91	.95	.95	.85	.82	.90
Below 35	....	....	....	$.79	$.69	....	....	....	....	.85	.91	.93	.97	.97	.87	.84	.92
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.12	1.09	.85	.91	.93	.97	.97	.87	.84	.92
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.87	.93	.95	.99	.99	.89	.86	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.89	.95	.97	1.01	1.01	.91	.88	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.91	.97	.99	1.03	1.03	.93	.90	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	.93	.99	1.01	1.05	1.05	.95	.92	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	.95	1.01	1.03	1.07	1.07	.97	.94	1.02

*The following companies purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedules: Below 25 degrees, 76 cents; 25-25.9 degrees, 78 cents, with 2 cents added for each degree upward to 40 and over at $1.08: Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co. and Wilcox Oil & Gas Co. All others begin their schedule at below 29 degrees, 84 cents, excepting Phillex Oil Co., which begins with below 31 degrees at 88 cents.

Column 1—Effective September 29, The Texas Co. in Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanotex Refining Co. in Kansas; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma; Shell Petroleum Corp in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; The Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas; Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Phiitex Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas. Effective September 29, by White Eagle Oil Corp. in Kansas; on October 1 by Barnsdall Refineries, Inc., in Oklahoma.

Column 2—Effective September 29, by the Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co. Effective September 29 in the Van Pool, Van Zandt County, the Pure Oil Co. posted below 29 degrees, 84 cents, with 2 cents added for each degree up to 40 and over at $1.08.

Column 3—Effective September 29 by the Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective December 22, Stanolind Oil & Gas Co. in Pine Island, Louisiana, and Marion County, Texas, posted below 29 degrees, 79 cents, with 2 cents added for each degree up to 40 and over at $1.03. For Standard Oil Co. of Louisiana's prices see Columns 10 to 16, inclusive.

Column 4—Effective September 29 by the Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co. and H. F. Wilcox Oil & Gas Co. On same day Phiitex Oil Co. posted below 31 degrees, 71 cents, with 2 cents added for each degree up to 40 and over at 91 cents.

Column 5—Effective September 29 by the Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., Continental Oil Co. On same day, Phiitex Oil Co. posted below 31 degrees, 61 cents, with 2 cents added for each degree upward to 40 and over at 81 cents.

Column 6—Effective September 29 by the Humble Oil & Refining Co. and Tide Water Oil Co., and on September 30 by the Texas Co. which on September 29 had posted a schedule of $1.07 to $1.12, with a 1-cent spread on each degree.

Column 7—Effective September 29 by the Stanolind Oil & Gas Co.

Column 8—Effective September 29 by the Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Sinclair Prairie Oil Marketing Co. On October 3, Magnolia Petroleum Co. posted Lockport, Louisiana: 20-20.9 degrees, 84 cents, with 2 cents added for each degree upward to 34 and over at $1.12, and in Cameron Meadows and Iowa, Louisiana: Below 20 degrees, 72 cents with 2 cents added for each degree up to 34 and over at $1.02. These prices were 2 cents higher on each degree than Magnolia prices posted on September 29. Effective September 29, Shell Petroleum Corp. posted in Iowa, Louisiana, district: Below 20 degrees, 70 cents, with 2 cents added for each degree upward to 34 degrees and over at $1.00; and in Black Bayou and White Castle, Louisiana: Below 20 degrees, 80 cents, with 2 cents added for each degree upward to 34 degrees and over at $1.10.

Column 9—Effective September 30, the Texas Co. (On September 29, the Texas Co. had posted a schedule 2 cents lower on each degree, but changed it on September 30.)

Columns 10, 11, 12, 13, 14, 15, 16—Effective September 29, by the Standard Oil Co. of Louisiana and Louisiana Oil Refining Co.

Column 17—Effective September 29, by the Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 30)

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas	$1.00
Stratman, Kans. (Sept. 29, 1933)	1.08
Corsicana (heavy) (June 17, 1933)*	.30
Other fields	(See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., and Empire Oil & Refining Co.
*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell (Sept. 29, 1933)	$.75
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933)	.70
Pecos County, Yates shallow pool (Sept. 29, 1933)*	.65
Jones and Fisher Counties	See gravity table.

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.
*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers	(See gravity table)
Tomball (see note)*	$1.15
Livingston (Sept. 29, 1933)†	1.00
Greta (Sept. 29, 1933)	.85
Refugio, light	(See gravity table)
Refugio, heavy (Sept. 29, 1933)‡	.85
Markham and High Island	(See Gulf Coast gravity table)
Conroe	(See Conroe gravity table)

Note—Tomball, effective September 29, by Humble Oil & Refining Co., and October 2 by Magnolia Petroleum Co., and November 10 by Stanolind Oil & Gas Co.
*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy, by Humble Oil & Refining Co.

South Central and Southwest Texas

(See note below table)

Darst Creek	.87
Mirando	.80
Luling (Sept. 29, 1933)	.75
Pettus	1.05
Salt Flat	.87
Lytton Springs (Sept. 29, 1933)	.95
Duval County (Sept. 29, 1933)	.80
Saxet	.85

Note—Effective on September 29 by Humble Oil & Refining Co. in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 29 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Effective October 3 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Saxet, effective September 29, by Humble Oil & Refining Co. and Texas Co. Effective September 29 in Salt Flat by Shell Petroleum Corp.

(Continued on Page 30)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

January 2, 1934

Taxes

The gasoline quotations given in the following tables include the 1 cent Federal tax, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third grade and a premium grade are also available.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atlanta, Ga.	21 0	21.0	7.0	14.0
Augusta	21.0	21.0	7.0	14.0
Macon	21 5	21 5	7.0	14 0
Savannah	21.5	21.5	7.0	14.0
Birm'ham, Ala.	23 5	23.5	8.0	12 0
Mobile	22.5	22 5	8 0	12 5
Montgomery	21.0	21.0	8 0	14 5
Jackson, Miss.	21.5	21.5	7 0	13 0
Vicksburg	21 0	21 0	7.0	13.0
Jack'ville, Fla.	21.5	21.5	8 0	12 5
Miami	21.5	21.5	8.0	13 5
Pensacola	21 5	21 5	8 0	13 5
Tampa	21.5	21.5	8 0	12 5
Lexington, Ky.	20.0	20.0	6 0	11.0
Covington	19.5	19 5	6.0	11 0
Louisville	19 5	19 5	6 0	11.0
Paducah	20.0	20.0	6.0	10.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1 cent state tax; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1 cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Dallas, Tex.	16.0	19 0	5 0	8 5
Fort Worth	16 0	19 0	5.0	8.5
Houston	15.0	18.0	5.0	8 5
San Antonio	16 0	19 0	5.0	8.5
El Paso	16.5	19.5	5 0	11 0
Texarkana	*14 5	14 5	5.0	9 0
Muskogee, Ok.	15.5	18.0	5.0	8.5
Okla. City	15 5	18 0	5 0	8 5
Tulsa	15.5	18.0	5.0	8.5
Ft. Smith, Ark.	*17 4	17.4	5.0	9 0
Little Rock	19.9	19.9	7.0	9.0

*Less 3 cents to dealers.

Standard Oil Co. (Indiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Chicago	17 3	17 3	4.0	9 7
Decatur, Ill.	17.7	17.7	4 0	10 2
E. St. Louis	17.0	16 2	4 0	9 5
Joliet	17.7	17.7	4.0	10.2
Peoria	17.7	17 7	4.0	10 2
Quincy	17 5	17.5	4.0	10.0
Davenport, Ia.	17 6	17 6	4 0	10.1
Des Moines	17 6	17 6	4.0	8 0
Mason City	17 6	17 6	4 0	10.1
Sioux City	17 2	17 2	4.0	9 7
Duluth, Minn.	18.2	18 2	4 0	10.4
Mankato	17.8	17.8	4.0	10 3
Minneapolis	17.9	17.9	4 0	10 4
LaCrosse, Wis.	19 3	19.3	4 8	10 8
Green Bay	18.7	18 7	5 0	10.2
Milwaukee	18.2	18.2	5.0	9.7
Madison	18 4	18 4	5.0	9 9
Detroit, Mich.	17.5	17 5	4 0	10.5
Grand Rapids	17.7	17.7	4 0	10.2
Saginaw	18 0	18 0	4.0	10.5
Evansville, Ind.	15 5	15.5	5 0	10 0
Indianapolis	18.7	18 7	5 0	10.2
South Bend	19.0	19.0	5.0	10.5
Fargo, N. Dak.	19 6	19 6	4 0	21 1
Huron, S. Dak.	19.9	19 5	5.0	11 4
Sioux Falls	19.4	18.4	5.0	10 9
K. C. Mo.*	16 7	16 7	4 0	8 2
Springfield*	16 6	16.6	4.0	9.1
St. Louis	15.7	15 7	3 5	8 7
St. Joseph*	16 3	16.3	4.0	8.3
Wichita, Kans.	15.6	15 6	4.0	8 1
Bartlesville, Ok.	16.0	18 5	5.0	8 5

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

Effective June 1, 1933—Discounts off tank wagon price to consumers on 500 gallons or more per month in territory outside of Chicago metropolitan area: 2 cents on Ethyl and Red Crown gasolines, and 1 cent on Stanolind gasoline. One-half cent additional discount in Chicago division.

Effective July 1, 1933—Discounts on resellers authorized agent's agreement made off the service station price throughout the territory as follows: 2.5 cents on Red Crown, Ethyl and Standard Red Crown gasolines, and 1.5 cents on Stanolind gasoline. Half of reduction from normal service station price shall be absorbed by resellers up to maximum of 1 cent on all grades.

In St. Louis and St. Louis County, Missouri, the following discounts are in force: For 300 to 3,000 gallons monthly, 2 cents on regular and premium, 1 cent on third grade; for 3,001 to 10,000 gallons, 3 cents on regular and premium, 1 cent on third grade; for more than 10,000 gallons, 3½ cents on regular and premium, 1 cent on third grade.

Stanolex Furnace Oil in Chicago

Effective September 13, 1933, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), under 100 gallons, 8¼ cents; No. 2 (30-34 stw. zero), 7¾ cents; No. 3 (22-26 zero), 7¼ cents; No. 4 under 300 gallons (12-16 zero), 6¼ cents; viscosity of No. 4, 90-115 at 100° F.; No. 5 under 300 gallons, 6 cents; for deliveries of 100 gallons or more deduct 1 cent.

Naphtha

	Tank wagon
Oleum spirits	13.9
V.M.&P. naphtha	15.9
Cleaners' naphtha	15 0
Stanisol	15 0

Prices f.o.b. Chicago, September 13, 1933. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atl'tic City, N.J.	18.7	18 2	4.0	10 0
Newark	18 0	17 5	4.0	9.5
Annapolis, Md.	19.3	18.8	5 0	10.0
Baltimore	18 8	18 3	5 0	9 0
Cumberland	20.3	19.3	5.0	12 7
Wash'g'n, D. C.	17 0	14.5	3 0	11.0
Danville, Va.	21.4	20.9	6 0	13 9
Norfolk	19 9	18 3	6.0	11.2
Petersburg	20.7	20 2	6.0	11 4
Richmond	20 3	19 8	6.0	11.7
Roanoke	21.5	21.0	6 0	12 9
Charla'n, W.Va.	19 7	19 2	5.0	12 6
Parkersburg	19.0	18 5	5.0	11 2
Wheeling	19.2	18.5	5 0	12 2
Charlotte, N. C.	23 1	22 6	7.0	13.5
Hickory	23 4	22.9	7 0	13 7
Mt. Airy	23 4	22.9	7 0	13.8
Raleigh	22 9	23 4	7.0	13.3
Salisbury	23 2	18 5	7 0	13.6
Charleston, S.C.	20 9	20 4	7.0	11 3
Columbia	22 7	22.2	7 0	13.2
Spartanburg	23.1	22 6	7.0	13 5

Note—Dealer contracts for gasoline are written at 2½ cents over the posted tank car price. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey and Baltimore, Md.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
N. Orleans, La.	20.0	19.5	*7.0	†12.0
Baton Rouge	19.5	19.0	6 0	†12.0
Alexandria	20 4	17 0	*7.0	†10 0
Lafayette	20.0	19.5	*7 0	†12 0
Lake Charles	20.5	20 0	*7.0	†12 0
Shreveport	18 3	15.5	6.0	†12 0
Knoxville, Tenn	23.7	22 7	8 0	13.0
Memphis	22.1	21.0	8 0	9 5
Chattanooga	23.5	19 5	8.0	12 0
Nashville	23.0	19 5	8.0	11 0
Bristol	23 6	21.0	8.0	14.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax.

Commercial consumers for tank wagon delivery pay following amounts over tank car price, basis yearly deliveries:

1,000 to 75,000 gallons	2.5
75,000 to 300,000 gallons	1.5
Over 300,000 gallons	1.0

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline: Tank truck†	Gasoline: Posted retail	Gasoline: Incl'ds tax of	Kero. tank wagon
San Francisco	16.5	19 5	4.0	12 5
Los Angeles	16.0	19.0	4 0	12 5
Fresno, Calif.	17 5	20 5	4.0	14.0
Phoenix, Ariz.	18 5	21.5	6 0	‡16 0
Reno, Nev.	20.0	23 0	5.0	15 5
Portland, Ore.	19.0	22.0	5.0	13.5
Seattle, Wash.	19 0	23.0	6 0	13 5
Tacoma	19 0	22 0	6 0	13.5
Spokane	22.0	25.0	6.0	18.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent. ‡Includes 5 cents state tax.

New York and Part of New England

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Albany, N. Y.	16.6	17 6	4 0	9 5
New York	16.5	17 5	4 0	8.5
Buffalo	17 2	18 2	4 0	9.5
Rochester	16.0	17.0	4.0	9 5
Syracuse	17 1	18 1	4 0	9.0
Boston, Mass.	16.5	17 5	4 0	8.0
Augusta, Me.	18 0	19 0	5 0	9.0
Manch't'r, N.H.	18.7	19.7	5.0	8.5
Burlington, Vt.	19 3	20.3	5.0	9.0

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Philadelphia, Pa.	15 0	16 0	4.0	10.0
Pittsburgh	16.5	17 5	4.0	10.0
Allentown	16.5	17 5	4 0	10 0
Erie	16 5	17.5	4 0	10.0
Scranton	16.5	17 5	4 0	10 0
Altoona	16.5	17.5	4 0	10.0
Dover, Del.	16.5	17.5	4 0	10.0
Wilmington	13 0	13.5	4.0	10.0
Boston, Mass.	16.5	17.5	4.0	8 5
Springfield	17.1	18.1	4 0	8 5
Worcester	17 0	18.0	4.0	8.5
Hartford, Conn.	15 9	16 9	3 0	8 5
New Haven	15 7	16.7	3.0	8.5
Providence, R.I.	15.5	16.5	3 0	8.5

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Denver, Colo.	18.5	21.0	5.0	12 5
Pueblo	16.5	19.0	5.0	13 0
Grand Junction	20 5	23 0	5 0	15 0
Casper, Wyo.	19.0	21.5	5.0	11 0
Cheyenne	17 5	20 0	5 0	13 0
Butte, Mont.	20.5	23.0	5.0	17.5
Billings	22 5	25 0	6 0	16 5
Helena	22.5	25.0	6.0	17 5
Great Falls	22 0	24.5	6.0	17.5
Salt Lake, Utah	21.5	24.0	5 0	16 0
Boise, Idaho	22 5	25 0	6 0	18.0
Twin Falls	22.5	25 0	6.0	18.0
Albu'que, N. M.	19 0	22.0	*7.0	13.0

*One-cent city tax.

Effective October 21, 1933, discount to dealers with or without contract throughout Continental territory except New Mexico as follows: Service station price less 3 cents for regular grade and 2 cents for third grade.

Canada*

IMPERIAL OIL, LTD.
Imperial 3-Star Gasoline

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Hamilton, Ont.†	26.5	27.5	6 0	17 5
Toronto, Ont.†	26.5	27.5	6 0	17.5
Brandon, Man.*	31.0	34.5	7 0	22 5
Winnipeg, Man.	28 7	31 7	7 0	20.2
Regina, Sask.	29 0	32.0	6.0	21.5
Saskatoon, Sask.	31 8	34.8	6.0	24 3
Edmonton, Alta.	31 2	34 2	6.0	23.7
Calgary, Alta.	28 5	31 5	6 0	21.0
Vanc'ver, B.C.†	30.0	31.0	7 0	24 0
Montreal, Que.	24 0	27.0	6.0	17 0
St. Johns, N. B.	26.5	30.5	7 0	21 0
Halifax, N. S.	25.5	29 5	6.0	21.0

*Imperial gallon used in Canada. †Dealer discount posted tank wagon on gasoline in Ontario and British Columbia subject to dealer's discount of 3 cents per gallon.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Ohio points	16 5	17.5	5.0	*12.5

*Includes state tax of 1 cent, effective July 22.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Omaha	18 3	19 3	5.0	10.8
McCook	18 5	18.5	5.0	9 0
Norfolk	18 8	19 8	6.0	11.3
N. Platte	19 8	20 8	5.0	10.5
Scottsbluff	19.3	19.3	5.0	11.0

Note: Discount to dealers and AAA commissions. From service station price: Red Crown Ethyl and Standard Red Crown gasoline, 3 cents. Reliance (third grade) gasoline, 2 cents. Rentals under lease and agents agreement, one-half cent per gallon additional.

Discount to consumers under contract (large consumers under contracts and governmental units): On tank wagon deliveries of gasoline on monthly purchases of 500 gallons, or yearly purchases of 6,000 gallons, from the service station price: Red Crown Ethyl and Standard Red Crown Gasoline, 2 cents per gallon; Reliance (third brand) gasoline, 1 cent per gallon.

Retail Price Changes

Regular-Grade Gasoline and Kerosene

Atlantic Refining Co., December 22 advanced the tank wagon price of gasoline 3 cents and service station price 3½ cents in Philadelphia. December 16 it reduced the tank wagon price of kerosene one-half cent and December 22 advanced it one-half cent in Springfield.

Standard Oil Co. of California, December 27 advanced the tank wagon price of gasoline 2 cents in San Francisco, Los Angeles, Fresno and Reno; 1 cent in Spokane; one-half cent in Phoenix, Portland, Seattle and Tacoma. December 28 it made the same advances in service station prices.

Standard Oil Co. of Louisiana, December 15 reduced the service station price of gasoline 1 cent in Chattanooga, reduced it .9 cent further December 19 and reduced it 1 cent further December 22. On December 20 it reduced the service station price of gasoline 1 cent in Bristol. December 5 it reduced the tank wagon price of gasoline .3 cent in New Orleans. December 18 it reduced the service station price of gasoline .6 cent in Lafayette. December 19 it reduced the service station price of gasoline 1 cent in Shreveport. December 22 it reduced the service station price of gasoline 1½ cents in Nashville.

Standard Oil Co. of New Jersey, December 18 advanced the service station price of gasoline 2 cents in Washington. December 19 it reduced the service station price of gasoline 1.3 cents in Cumberland.

Standard Oil Co. of Kentucky, December 14 reduced the tank wagon and service station prices of gasoline one-half cent in Montgomery and December 16 reduced them one-half cent further. December 16 it advanced the tank wagon and service station prices of gasoline one-half cent in Atlanta.

Standard Oil Co. (Indiana) December 29 reduced the tank wagon and service station prices of gasoline one-half cent in Detroit.

East Texas Settlements Announced in Washington

WASHINGTON, D. C., Jan. 2.—Stuart Godwin, publicity administrator for the Department of the Interior, posted the following on bulletin board of the press room in the Interior building:

"Following is a list of Texas oil operators who have admitted their guilt in running hot oil in interstate commerce and have paid fines for violating the state allowable, and have submitted propositions of settlement with the department, which have been accepted:

Name—	Fine to state	Departmental settlement
R. W. Porter	$10,000	$3,000
B. M. Scisco	4,000	2,000
R. O. Laneve	2,000	1,000
J. Z. Werby	2,000	1,000
L. B. Phillips	2,000	1,000

"The idea in the settlement is to take all profit out of hot oil transactions. In one other case a technical settlement of $1 was made with the department, when it was proven that accumulated demurrage charges on a shipment of several carloads of oil amounted to $6,650. The case involved J. A. Johnson.

"The court records of the five oil-producing counties in East Texas show fines paid for violating the state allowables in production but where there was no shipment in interstate commerce."

NATURAL GASOLINE MANUFACTURE

Constructing 5,000-Gallon Michigan Gasoline Plant

Otha H. Grimes of Tulsa has started construction on a 5,000-gallon natural gasoline plant in the Chippewa-Greendale oil field of Michigan and plans to enlarge the plant as further development of the field justifies the move. Building and operating the plant as an individual, Mr. Grimes has placed the design and construction of the plant in the hands of Robert Chisolm who is on the ground and is making his headquarters in Mount Pleasant. The products will be sold through Hurley Gasoline Sales Co., Tulsa.

Approximately 300 wells have been drilled in the Michigan Field in close proximity of the plant but this is the first gasoline plant to be built since the field started a full development program. The gas is produced from the Dundee sand and yields about 2 gallons per 1,000 feet. A sufficient number of wells will be connected to supply the plant with an average of 2,500,000 feet per day. Contracts have been completed with the Pure Oil Co. to handle a large share of the gasoline produced from its wells. The plant itself will contain several novel features and will utilize the Tulsa-type atmospheric and closed coolers.

Construction work is expected to be completed within 90 days and negotiations are under way at this time for supplying one of the several gas distributing lines in the field for the sale of the residue gas. Loading facilities are being provided at Mount Pleasant.

One Gasoline to Start, Another to Drive Car?

The possibility that experiments now being conducted at the U. S. Bureau of Standards will ultimately show the feasibility of starting the motor car with a very volatile fuel and running the car with fuel contained in another tank is being viewed with interest by natural gasoline manufacturers.

The work originally started as an investigation of the use of alcohol blends as suitable fuel in the present-day motors. The work was pressed because of the wave of anxious hopes that hurriedly accumulated in the farming areas based upon the automobile consuming thousands of tons of corn and wheat in the form of alcohol as an immediate aid in disposing of excess production. The economics of the manufacture of alcohol and the utility value of alcohol were not investigated as thoroughly at the time as would be necessary to make a decision safe and the bureau undertook considerable work in which an impartial investigation indicated that alcohol was inferior to gasoline as a motor fuel.

However, the same influences are at work to further the manufacture and use of alcohol as a motor fuel as were at work when farm prices were very low and because there has not been as large an increase in these prices as farmers say is necessary to bring a reasonable return, definite steps are likely to be taken in the next session of Congress to force a general use of alcohol.

To supply a very volatile fuel such as a liquefied gas through from one tank for starting and then operating the car on gasoline of longer boiling range than at present affords new fields of thought and investigation but the objection placed by manufacturers of automobiles upon a dual system must be overcome along with the limitations placed upon the boiling range of the gasoline due to maintaining a high antiknock value.

Most of Gasoline Plant Construction Is Crowded Into the Last Four Months

As 1933 came to a close more gasoline plant construction was in progress than at any time in the past two years. The present total is not especially large but that emphasizes the almost absolute lack of any building during that period. It appears as though natural gasoline will assert itself as a more important source of motor fuel during 1934 than in the past year and also that 1934 will be considerably more profitable to the industry. This latter statement must be made with the usual number of "ifs" and "ands" that come into any prediction in regard to oil company earnings, but certainly, at this writing, there are more factors in operation tending to aid in reestablishing natural gasoline to its normal market position than are tending to depress it.

Applies Generally

This could not be said, however, if the same statement could not be applied to the oil business in general because of the dependent position in which the natural gasoline branch finds itself. In addition, however, natural gasoline appears now to have gained an especially favorable position.

In the first place, there have been fewer plants built each year since 1928 when the number stood at the all-time peak of 1,229 on May 1 of that year. At present there are about 900 plants. The booms witnessed in the California fields, in Seminole and in the Oklahoma City Field, each of which has called for a full allotment of natural gasoline plants along with the commensurate large production of crude oil, did not materialize while the East Texas Field was under development because there was so little gas with the oil in the latter.

Even though East Texas did not offer the usual market problem of disposing of the natural gasoline that other important fields have done, it did strike at natural gasoline prices from another angle. The East Texas Field produced crude so cheaply and allowed refiners to manufacture gasoline so cheaply that those outside the immediate influence of these favorable conditions were forced to sell at the ruinous new level. Refinery gasoline was being offered in East Texas below the cost of manufacturing natural in the lowest-cost plants in the Mid-Continent and refiners held back from buying natural as one means of lowering their own manufacturing cost to meet this competition.

The first half of 1933 passed with the price on the 26-70 grade below 2 cents during the greater share of the time. It went from 2½ cents on January 1 to 1 cent on June 1. This condition was certainly not conducive to gasoline plant construction. In the three months that followed, natural gasoline increased in price five-fold and, although the market has not been retained at that level, it has been high enough to encourage the building of plants in certain fields.

One of these is the Panhandle, where large gas reserves are being tapped and the gasoline recovered without regard to utilizing the residue. This development followed a long legal battle in which the Railroad Commission's ruling was sustained whereby producers are permitted to utilize gas from their wells for the manufacture of natural gasoline without finding an outlet for the residue as a medium to produce heat, light or power. Several plants have been built in the Panhandle as a result of this ruling and one large one is now under construction there. The older plants in the field have added to their gas supply where the extension of lines was feasible.

More for East Texas

As the pressure on the East Texas Field declines and the slow but sure need for pumping equipment exerts itself, producers foresee a sufficient increase in the richness of the little gas produced per well to justify building additional plants. Safeguarding themselves against the uneven gas supply from wells operating under proration, and because of the relatively small volume of gas available, those who have built plants in the East Texas Field and those who are now going in have made connections to hundreds of wells. It is not likely that East Texas will rank very high in the scale of most important fields as a source of gasoline but it does afford definite opportunities at this time for a few more large and well-equipped units.

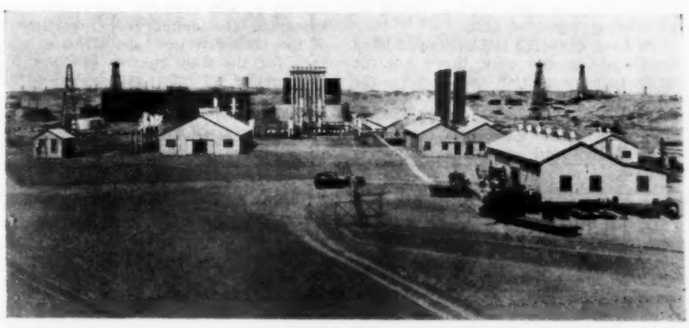
In 1933 there was a move seen to divert attention to the Gulf Coast area. Several plants were built in the Conroe and other Gulf Coast Fields which may serve as the beginning of a major development of the industry there. Much of the acreage in the proven areas is held by the major companies so development will probably take a slower and more conservative course. Turning away from the manufacturing side to marketing, the year 1933 will be remembered by the low volume of purchases of natural by refiners, compared to other recent years. The year also supplied a definite setback to the rapid expansion of reforming, a practice which supplied large quantities of wet gas from which the refiner is able to act almost independent of natural gasoline. This setback reforming received was due to the extension of the use of ethyl fluid for use in the regular grade of station gasoline. Refiners were thus able to improve the antiknock value of their motor fuel without the addition of cracking and reforming equipment and on January 1 a still lower price goes into effect on the fluid itself as well as the elimination of the royalty charge so that the use of ethyl fluid as a builder of antiknock value increases and the ability of carrying on a competitive reforming operation becomes a little more difficult.

NATURAL GASOLINE PLANTS BUILT IN 1933

Company and location—	Daily plant capacity—Gas (feet)	Daily plant capacity—Gasoline (gals.)	Status
Crosbie & Moran, Inc., West Holdenville, Okla...	35,000,000	12,000	Operating
Montana Power Co., Cut Bank, Mont.	.....	1,000	.....
Eureka Gas & Oil Co., Muskegon, Mich.	.....	100	Operating
Magnolia Petroleum Co., Pampa, Tex.	12,000,000	25,000	Operating
Standard Oil Co. of Calif., Bakersfield, Calif.....	2,000,000	3,000	Operating
*Owens-Libby-Owens Glass Co., Charleston, W. Va.	25,000,000	8,000	Operating
Shamrock Oil & Gas Co., Dumas, Tex.....	60,000,000	20,000	Operating
Gilmore Oil Co., Glenn City, Calif.	.....	2,000	.....
Gregg-Tex Gasoline Corp., Willow Springs, Tex..	60,000,000	20,000	Operating
*Henderson Co., Sanford, Tex.	40,000,000	.....	Operating
Hercules Gasoline Corp., Kilgore, Tex.	35,000,000	.....	Operating
*Midland Gasoline Corp., Conroe, Tex.	28,000,000	.....	Operating
*Bell Oil & Gas Co., Carson County, Texas.....	.....	4,500	Operating
Calgray Corp., Pampa, Tex.	20,000,000	20,000	Operating
Humble Oil & Refining Co., Conroe, Tex.	12,500,000	.....	Operating
Smith Brothers Refining Co., McLean, Tex.	100,000,000	30,000	Building
Henaghan & Hanlon, Inc., Richey Co., W. Va...	5,000,000	.....	Building
Skelly Oil Co., Kingman City, Kans.	10,000,000	5,000	Building
The Texas Co., Foard County, Texas	10,000,000	.....	Building
Garland Clymore, Agua Dulce, Tex.	30,000,000	.....	Proposed
Shamrock Oil & Gas Co., LeFores, Tex.	75,000,000	.....	Building
O. C. Fields Gasoline Co., Huntington Beach, Cal.	25,000,000	40,000	Building
Sinclair Refining Co., Gregg County, Texas.....	20,000,000	40,000	Proposed
Mohawk Petroleum Co., Mountain View, Calif...	.....	1,000	Building
Hanlon-Buchanan, Inc., Gladewater, Tex.	8,000,000	25,000	Proposed

*Major enlargements made in old plant.

Modern Gasoline Plant in Peru



Natural gasoline plant of the International Petroleum Co. located at Lomitos in the Negritos Field, Peru, S. A.

NEWS FOR SALES DEPARTMENTS

Announces Intentions to Re-enter Jobbing Business

R. S. King has announced his resignation as vice president of General Petroleum Corp. of California, Pacific Coast subsidiary of Socony-Vacuum Corp. He plans to re-enter the oil business with his former associate, W. E. Talbot. Mr.

R. S. KING

King was formerly president of the Refiners Oil Co. of Ohio and Mr. Talbot vice president. They sold the company to the Standard Oil interests in 1930. Mr. King will remain in Los Angeles with General Petroleum Corp. until spring.

TAX PAID ON CWA SALES

In answer to requests made to the Treasury Department of the Federal Government for an interpretation of the procedure to follow in making tax payments on oils sold for CWA projects the following telegram was received by the Western Petroleum Refiners Association and the latter further explanation of the matter clarifies the procedure for refiners and marketers to follow.

"Now held since state and local CWA are Federal agencies and payments made from Federal funds tax attaches to producers sales of gasoline and lubricating oil for use by such agencies."

The WPRA states, "From this, and the information in our December 19 letter it appears that the Federal tax applies in all cases of sales to CWA, while the state tax applies except in cases where the gasoline is used in Federal owned equipment and is signed and receipted for by an authorized agent of the Government on Form 44.

YALE BUYS REFINERY

BILLINGS, Mont., Jan. 2.—Yale Oil Corp. of South Dakota has purchased an interest in the refinery of the Bales Oil Trust at Worland and also in the trust's holdings in the Hidden Dome oil field 18 miles northeast of Worland, Wyo. The consideration and other details of the trade have not been made public.

It is stated that the Yale company contemplates enlarging the refinery to 500 bbls. or more charging capacity next spring, the further development of the Hidden Dome oil field and, if conditions warrant, the laying of a pipe line from Hidden Dome to Worland.

Extend Credit Period Ninety Days for the Collection of Sales Accounts

An extension of 90 days was granted by Administrator Ickes in the matter of collecting balances on oil sales.

The full resolution as prepared by the Planning and Co-ordination Committee and approved and promulgated by the administrator reads as follows:

"Whereas, the oil administrator, under date of October 13, 1933, on recommendation of the Planning and Co-ordination Committee, issued the following order:

"Pursuant to the authority vested in me by the President's order of August 28, 1933, issued pursuant to Section 2(b) of the National Industrial Recovery Act (Public No. 67, 73rd Congress) and by Sections 2, 3 and 4(a) of Article I of the code of fair competition for the petroleum industry approved by the President pursuant to such act, the provisions of Rule 5 of Article 5 of said code are hereby modified as follows for a period not to exceed 75 days from the date of this order:

"Wherever, under the terms of Rule 5 of Article 5, any seller of petroleum or the products thereof is required to cease extending credit to any purchaser of such petroleum or the products thereof who has not made satisfactory settlement on a date specified in Appendix B to said rule, such seller shall be allowed a period of not more than 30 days from said final date of payment in which to effect collections; provided, however, that such seller shall, during this period, conscientiously endeavor to secure payment and establish the account on the proper basis of payment as to future purchases.

"Whereas, the extension of time granted is insufficient to permit a careful analysis of the experience in the field.

"Now, therefore, be it resolved by the Planning and Co-ordination Committee that the oil administrator be and hereby is requested to extend his modification order of Article 5, Rule 5, above quoted, for an additional 90 days from December 28, 1933."

Tide Water Oil Issues "Don'ts" to Winter Drivers

The Tide Water Oil Co. has issued a warning to motorists through its chief automotive engineer Sidney Bevin in regard to the choice of correct winter lubricants and fuels to promote economy in winter driving. Mr. Bevin says: "Women are particular offenders in the misuse of the choke button on their cars," the bulletin states,

"The practice referred to is that of leaving the choke pulled out while driving on a cold day. There is no necessity for this. With the rapid recent improvements in oils and fuels designed for the new high compression, high speed motor car engines, difficulty in starting on a cold day is a rare occurrence if a few simple rules are followed. Before these rules are applied it is well to see that your crankcase is filled with the proper winter grade of an oil known to give easy starting and good mileage. This oil should come from sealed cans and the fuel tank should be filled with gasoline of proper volatility for the winter season and of the proper octane rating to effect knockless engine operation.

"Here are the rules:

"Open garage doors to avoid carbon monoxide fumes.

"Be sure gear shift is in neutral position.

"Retard spark lever if there is one on the steering wheel or dash.

"Pull out choke all the way, open hand throttle one-quarter way, throw out the clutch, turn on ignition and then use the starter.

"The motor should start in a few revolutions. The choke must then be pushed in gradually until smooth operation is attained.

"Release clutch, speed up motor slightly for a minute or two to warm up.

"Do not race motor under any conditions.

"Close choke and drive on.

"These are elementary rules of car operation but their violation, through ignorance or carelessness, is causing thousands of motorists annoyance, financial loss and a reduction in their car's fuel mileage."

Gasoline Tax Collections Take Jump in California

Gasoline tax collections in California showed an unusually large increase in November explained in part by better general economic conditions within the State and the hasty buying of supplies by jobbers during a "price war" early in the month. Total collections for the month amounted to $3,863,409.30, a gain of 28.7 per cent over a year ago.

Those companies reporting more than 1,000,000 gallons of net taxable sales and their assessments for the month have been listed by the board as follows:

Name—	Gallons actually sold	Net taxable gallonage
Associated Oil Co.	18,060,958	13,444,941
R. R. Bush	1,380,521	1,233,623
Caminol Co., Ltd.	2,360,800	2,090,708
Edington O. & R. Co., Ltd.	1,354,260	1,366,152
General Pet. Corp.	11,900,470	10,582,645
Macmillan Pet. Corp.	2,483,929	2,491,462
Western O. & R. Co.	2,253,060	1,686,957
Hancock Oil Co.	3,808,717	3,397,098
Richfield Oil Co.	11,896,548	14,215,963
Norwalk Co.	2,798,410	1,405,845
Olympic Ref. Co.	1,348,690	1,354,991
Petrol Corp.	1,403,743	1,417,922
Rio Grande Oil Co.	3,243,513	3,243,685
Sunset Pacific Oil Co.	3,729,216	1,247,903
Seaside Oil Co.	4,737,768	1,526,812
Shell Oil Co.	38,029,520	15,703,054
Standard Oil Co. (Cal.)	49,093,778	25,218,022
St. Helens Pet. Co., Ltd.	1,087,625	1,069,216
Texas Co.	16,191,526	5,562,044
Union Oil Co.	27,577,474	12,685,842
Wilshire Oil Co., Inc.	3,259,191	3,228,808

CLOSE POST OFFICE CONTRACT

CHICAGO, Jan. 2.—Central Oil Storage Corp. was awarded the contract for supplying the motor fuel requirements of the United States post office at Chicago for the first quarter of 1934, approximating 250,000 gallons of middle octane bracket U. S. motor fuel. The company's bid was .035 above the average Group 3, Oklahoma, tank car price as published on date of delivery plus Federal excise tax in effect during contract term, but not to exceed .075 less said tax. This is the first time this company has been successful bidder for this business, which is usually subject to active competition.

SELLS SHELL PRODUCTS

Effective January 1, Arthur D. Guy will distribute Shell Oil Co. products in the Kilgore area of the East Texas Fields.

Gasoline Strike Brings Out Roller Skates and Bicycles

Governmental subsidy of oil marketers in Porto Rico stood as the only hope for quelling what approached mob violence in the popular demand for lower gasoline prices. Gasoline has been selling for 25 cents a gallon and the hasty conclusion of Federal agents seeking to effect a compromise led to suggesting a price of 20 cents, with the Government paying the oil companies the difference between that and the actual cost of doing business.

As a result of the strike, traffic has been tied up in all parts of the island. Some of the reports refer to conditions which are difficult to picture in the United States where there has never been either a shortage of gasoline or a strike and along with the seriousness of the local problem are many humorous angles.

Men on roller skates with their coats under their arms went to or from offices down the middle of the highways, while bicycles, some brought by Santa Claus for sons and daughters, were suddenly commandeered by fathers.

During this most complete tie-up of transportation the island has ever known, a conference was held at La Fortaleza, where Acting Governor Horton called officials and citizens to discuss the best means of maintaining order.

United States District Judge Wells insisted that the only effective means of averting serious trouble was the arbitrary fixing of a gasoline price by the Government pending a thorough investigation as to an ultimate fair price.

Judge Wells suggested that a price of 20 cents a gallon be set, with the understanding that neither the companies nor the public be prejudiced by that price in the final finding. His plan was adopted by acclamation, and Mr. Horton immediately notified the company representatives and strikers.

The commissioner of labor, Prudencio Rivera Martinez, suggested that if the companies could show a loss while the 20-cent price prevailed, the insular legislature be urged to reimburse them.

All public motor vehicles, including 200 buses of the White Star bus line, which carry 70,000 passengers daily between residential and downtown San Juan, stopped promptly at noon.

Those remaining on the streets received flattened tires and frequently broken windshields. No horse-drawn carriages are to be found in the entire city, but horse-drawn carts, usually carrying light freight from piers, did a thriving business in taking business men and others to their homes in the suburbs.

NEW YORK DEALERS ORGANIZE

NEW YORK, Jan. 2.—At a meeting of gasoline dealers and wholesalers held here this week Nathaniel D. Jacoby, a former official of a local taxicab company, was elected head of an independent organization which was perfected at the meeting. The main purpose of the organization is to protect the independent dealers and aid officials in the enforcement of the NRA code.

According to an announcement by Mr. Jacoby, the organization will aim to eliminate the "bootleggers and chiselers" in the marketing of petroleum products. The organization will also seek to widen the present margin allowed gasoline dealers which in most cases has been reduced to 2½ cents a gallon. It is claimed that the increase in wages to station attendants under the NRA code has increased distributing costs and the margin allowed for service station marketing should be increased.

Gulf Serves the Great Steel Industry

MANY of the country's leading steel companies are cutting operating costs—in line with today's needs for greater economy—by the use of Gulf lubricants and engineering service. Old standards of efficiency have failed to meet present day demands. When maintenance, power and lubricants costs must be cut, these great mills find Gulf lubrication a vital factor in the solution of their problem.

GULF REFINING COMPANY
PITTSBURGH, PA.

GULF INDUSTRIAL LUBRICATION

Sales Offices:
Boston New York Philadelphia Atlanta New Orleans
Houston Pittsburgh Louisville Toledo

NEWS FOR PETROLEUM REFINERS

Sinclair Oil Makes Use of "Work-Factor" Test

By DANIEL T. PIERCE
Consolidated Oil Corp.

Poor service from oils is usually attributable to definite changes in their chemical and physical properties. These changes, in each case almost invariably the same kind of changes, can be readily noted in analysis of oils after they have given unsatisfactory service. But by that time the damage has been done, there has been wear on bearing surfaces, or the lubricant has proved that it is costing too much for the service rendered. The problem has been to devise a means of showing up the deficiencies or proving the merits of lubricants in advance of service use.

A reliable method of reaching such quality determination has been developed and has been adopted by engineers of the Sinclair Refining Co. The method is the Navy "work-factor" test devised some time ago in Government laboratories. This test accurately measures the service properties of lubricants and furnishes a "yardstick" which, applied to oils, is as conclusive as the familiar implement of the fabric merchant. By means of the "work-factor" test it can be known in advance that a given oil will insure proper lubrication for the least amount of money when applied to a given machine.

For this test, special machines have been produced. A "work-factor" machine consists of a test journal and equipment for running the journal on its bearings at controlled speeds and pressures. The machine is provided with instruments for indicating speeds, pressures, temperatures and amount of motive power applied.

When an oil is submitted to test, no clearance is allowed between the journal and its bearings. The metals are separated only by the oil film supplied at forced feed. A given quantity of oil is placed in the endurance machine which is run continuously at set speeds and pressures for 100 hours.

No effort is made to cool or to regulate the temperature of the oil under test. Without change or interference it is left to furnish proof of its lubricating stability. During the test hourly readings are taken of all the instruments and these show the conditions under which the lubricant is giving service.

The test may be at a bearing pressure of 150 lbs. per square inch and a speed of 2,000 revolutions per minute, or it may be at other desired speeds and pressures duplicating the most rugged service conditions. The lubricant is examined before the test and afterwards and the character and extent of the changes noted. Thus a "work-factor" test measures the exact degree to which a lubricating oil resists deterioration and change during use under definite operating conditions.

The same changes are shown by the test as would be developed in a long period of actual service. These changes relate principally to viscosity, acidity and carbon residue or "sludge." The "work-factor" of the lubricant is determined by checking the changes against scientifically adjusted valuations for each change.

HANCOCK ADDS EXCHANGER

The Hancock Oil Co. is adding another short tube-type high-pressure heat exchanger to its cracking unit in the refinery at Long Beach, Calif. The exchanger is being furnished by the Southwestern Engineering Corp.

Permanent Officers Are Chosen at the Recent Annual Conference on Cracking

The subcommittee on research, of the Cracking Development Conference, held its midwinter meeting, December 13 and 14, at the Hotel Commodore, in New York. The Standard Development Co., representing the Standard Oil Co. of New Jersey interests, having come into the conference, since the last meeting, at Whiting, Ind., in June, was among the companies that participated in the technical program. Prior to this addition of the Development company, the Cracking Development Conference included the Texas Co., Standard Oil Co. (Indiana), Gasoline Products Co., and the M. W. Kellogg Co. At the recent meeting, permanent officers were elected.

During the past several years, the Cracking Development Conference has met semiannually to review technical development and to consider methods of processing applicable to the cracking field. The object of the conference is to correlate experimental and plant development work, in pyrolytic cracking, which is carried on in the laboratories and refineries of the participating companies. It serves as a clearing house for improvements in processing methods and acts as a committee on standards used in the design of equipment. Designs and improvements pertain to processes such as Cross, deFlorez, Holmes-Manley, and Tube and Tank, and to combination units which are licensed to the industry under the scope of cracking patent rights of Gasoline Products Co. Improvements favorably passed by the conference, are incorporated in new designs, and in the remodeling of present cracking equipment.

The conference is organized according to three principal functions, namely, cracking plant operations, engineering and design, and research. At the recent meeting in New York, it was realized that the work of the Cracking Development Conference, and of the subcommittee on research, was becoming so extensive in scope, and so large in volume, that a permanent form of organization should be adopted. Previous meetings had been held at Los Angeles, Whiting, Port Arthur, and New York, and under this arrangement whoever acted locally as chairman to arrange for a given meeting, served then as chairman of the conference. According to the new arrangement, a permanent chairman, vice chairman, and a chairman of the subcommittee on research, will be responsible for handling the meetings, regardless of where they are held. The place of meeting will be varied as heretofore.

William F. Moore, of Gasoline Products Co., who has presided at the New York meetings, was elected the permanent chairman. John T. Ward, of the M. W. Kellogg Co., was elected vice chairman. Mr. Ward also becomes the permanent chairman of the subcommittee on research. The headquarters of the conference will be at the offices of Process Management Co., at 405 Lexington Avenue, New York City. It is believed that the continuity of function, obtainable through having permanent officers, will prove effective in co-ordinating the progress, from meeting to meeting, in the subjects discussed.

The next meeting of the general conference has been scheduled, tentatively, for April, at Port Arthur, Tex. The subcommittee on research will probably meet there, simultaneously, but will have its own separte sessions just prior to the convening of the group as a whole.

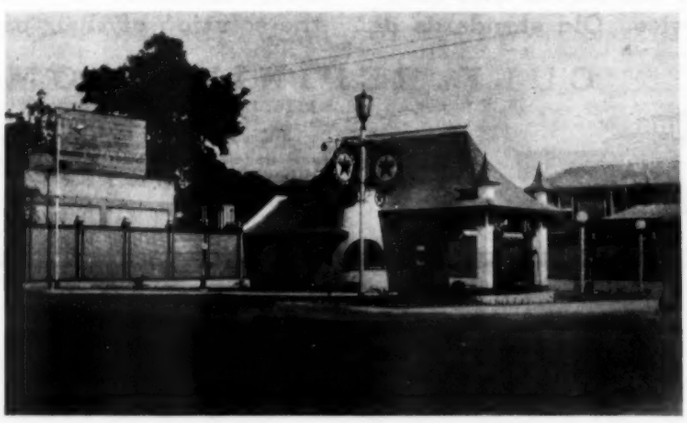
CANADIAN OIL EXPORTS

OTTAWA, Canada, Jan. 2.—Official figures of the Dominion Bureau of Statistics show that Canadian crude petroleum exports in November totaled 6,433,211 gallons valued at $240,062, compared with 233,130 gallons valued at $6,355 in the same month of 1932. Almost all went to the United States.

The export of coal oil and kerosene, practically all to Newfoundland, amounted to 157,887 gallons valued at $28,102, compared with 2,744 gallons valued at $516 in November, 1932.

Export of gasoline and naphtha was 673,268 gallons at $109,320, compared with 96,618 gallons at $13,302 the same month of 1932. Other mineral oil exports amounted to 2,903,087 gallons worth $101,416 compared with 38,462 gallons worth $15,604 the previous year; these exports going mainly to United States and Newfoundland.

Service Station, Oxford Road, Kingston, Jamaica



Atlantic Adding 20,000-Barrel Combination Unit

Construction work on a new 20,000-bbl. combination topping and cracking unit is under way at the Philadelphia (Point Breeze) refinery of the Atlantic Refining Co. The unit which is being installed by the M. W. Kellogg Co. is one of the largest distillation units ever designed.

The unit was designed so that the crude oil will be topped of light gasoline, the naphtha cuts reformed and the gas oil cracked in one continuous operation. The products of the plant will be a high octane gasoline and a commercial grade of fuel oil. The Atlantic refinery has a rated crude oil capacity of 50,000 bbls. daily.

MASSACHUSETTS JOBBERS

BOSTON, Mass., Jan. 2.—The officers of the newly formed independent jobbing organization to be known as the Massachusetts Petroleum Association were announced here this week. The object of the organization is to protect the interests of jobbers, several of which operate ocean terminals and which do a large business in gasoline and other products in Massachusetts. The officers who will serve during 1934 are as follows: President, Edward L. Bennett of the Metropolitan Ice Co.; vice president, E. Philip Finn of the Publix Oil Co.; treasurer, Frank Downey of the Atlas Petroleum Co.; secretary, Lester M. Henderson of the Lincoln Oil Co.

These officers with the following constitute the board of directors: Saul Berwin of the Leader Filling Stations; Philip Miller of the Miller Oil Co.; Charles Farrow of the Commercial Oil Co.; F. B. Smith of the Massachusetts Wharf Coal Co.; Frederick Walker of the Stetson Fuel Corp.

GASOLINE DISCOUNT SCHEME

CHATHAM, Ontario, Jan. 2.—The Canadian gasoline retailing situation has been somewhat affected by arrangements recently made whereby a number of listed gasoline and oil retailers are to give specified discounts to members of the Ontario Motor League on presentation of their membership cards. The discounts, amounting to 2 cents a gallon on gasoline and 5 cents a quart on oil, are allowed only on cash sales at the pump.

Prices paid to manufacturers and wholesalers are understood to be unaffected, the retailers concerned absorbing the difference in expectation of increased sales.

So far the new movement does not appear to be very widespread, the initial list containing the names of some 26 dealers. Some of these are understood to have since abandoned the scheme, owing to clauses in their leases and contracts which prevent such discounts.

NEW MICHIGAN REFINERY

B. J. Skinner, president of the Mid-Western Refining Co., which is planning to build a new central Michigan refinery in Alma, has petitioned the Michigan Public Utilities Commission for authority to build a new pipe line from the Porter Township Pool to Alma, a distance of about 10 miles.

Right of way for the line already has been obtained from private property owners and townships.

Reconditioning Old Wells in California Profitable

(Continued from Page 12)

an average of 36.4 feet per day. The average amount recovered per well was 287 feet, and in only a few cases was it necessary to wash over to remove these liners. In the 54 jobs which have been completed, only 687 feet of liner and 420 feet of tubing have been left in the wells as impractical of recovery. The total time required to rig up, remove the liners, cement, and return the wells to production for the 54 jobs was 930 days —an average of 17.2 days each.

The total potential of the wells prior to repair was 12,857 bbls. per day, compared with 18,434 bbls. per day after repair—a gain of 5,577 bbls. per day, an average of 103 bbls. per day for each job. Since some of the wells were repaired more than once, the average increase in potential per well was 174 bbls. per day. The indicated increase in ultimate production resulting from repair of these wells is estimated to be about 4,500,000 bbls.—an increase of 140,000 bbls. per well. In addition to increasing the amount of recoverable oil, recent operations have shown that unit-production costs have been lowered and operating problems simplified.

Conclusion

General adoption of systematic studies of individual well-production records, along with plans for maintaining wells in a satisfactory producing condition, has recently been recognized. The effect of such a program in increasing the production and the ultimate recovery from wells is apparent. While it has been impossible fully to present all details of the methods and tools used in reconditioning work, the purpose of this paper will have been accomplished if attention is directed to the increasing importance of maintaining producing wells in such condition that the maximum production may be obtained at a minimum expense.

Acknowledgment

In addition to the assistance given by the members of the California Drilling Practice Committee, the writer wishes to extend his thanks to Bruce Barkis, Rio Grande Oil Co., Los Angeles; J. B. Case, California Division of Oil and Gas, Los Angeles; J. C. Gilbert, Barnsdall Oil Co. of California, Los Angeles; Idris Thomas, Shaffer Tool Works, Sante Fe Springs; Henry Winter, Union Oil Co. of California, Los Angeles, and others—for their suggestions and contributions in the preparation of this paper.

Central and Western Kansas Fields Bear Brunt of Oil Production Curtailment

WICHITA, Kans., Jan. 2.—The Kansas Corporation Commission places the potential production of crude oil in the State as 314,600 bbls. per day. The allowable of the State for January is 110,000 bbls. per day. There are 18,870 oil wells in Kansas.

The bulk of the wells in the State are allowed 100 per cent production and the next largest group, from 5 to 10-bbl. wells, are allowed 90 per cent production. Of the pools wherein production is severely cut there are only 713 wells affected. These are allowed from 10 up to 50 per cent of their potential.

Those cut to from 10 to 25 per cent of their potential number only 211 wells.

The wells bearing the brunt of the production cut are in the central and western counties of the State. The Brandenstein Pool, Section 10-19-10w, Rice County, is cut to 10 per cent of its potential. Nikkell and Stoltenberg to 11.3 per cent; Sharpe to 12; Chase and Hollow, 13; Ploog, Raymond and Richardson, 14; Cunningham and Isern, 18.7; Ellenwood (Scheuffler), 22.7; Breford and Thode, 24; Stratman, 25.1; Orth, 26.3; Caldwell and Johnson, 29.3; Greenwich, 32.1; Beyer and Haury, 33.2; Ritz, 34.5; Gates and Voshell, 35.9; Gideon and Steckel, 37.5; Burrton, 39; Robbins, 43; Goodrich and Sellens, 44.5; Ochs, 46; Miller and Peasel, 49.

The pools most affected by the curtailment of production are the following:

Pool name—	No. wells	Revised Nov. potential	January bbls. allowed
Miller	2	150	74
Peasel	4	288	141
Ochs	3	282	130
Goodrich	13	1,316	586
Sellens	9	958	426
Robbins	9	1,061	456
Burrton	29	4,068	1,587
Gideon	1	150	56
Steckel	1	148	56
Gates	1	153	55
Voshell	118	18,366	6,593
Ritz	219	36,140	12,468
Beyer	5	875	291
Haury	8	1,399	464
Greenwich	36	6,842	2,196
Caldwell	3	609	178
Johnson	21	4,513	1,323
Orth	4	975	256
Stratman	16	4,447	1,116
Breford	4	1,149	276
Thode	1	297	71
Ellenwood (Scheuffler)	6	1,814	412
Cunningham	11	4,685	876
Isern	3	1,296	242
Ploog	1	637	89
Raymond	19	12,009	1,681
Richardson	6	4,150	581
Chase	28	21,761	2,829
Hollow	86	65,341	8,494
Sharpe	4	3,343	401
Nikkell	29	28,448	3,214
Stoltenberg	12	11,960	1,352
Brandenstein	1	1,083	108

O. C. Thomas in Charge of Harrisburg's Tulsa Office

Harrisburg Pipe & Pipe Bending Co., Harrisburg, Pa., announces the opening of a new branch office at 1503 Hunt Building, Tulsa, in charge of O. C. Thomas, formerly sales representative for this company. The Tulsa office will handle the company's products in Oklahoma, Kansas and New Mexico. The Harrisburg Pipe & Pipe Bending Co. has been represented in this territory for 10 years prior to 1931 by Mr. Thomas, but the new setup will consist of a branch office in charge of Mr. Thomas.

O. C. THOMAS

BETTER WRENCHES
will make his efforts "SHOW UP"
The productiveness of your man power will be multiplied many-fold with good tools.
Quality wrenches, for instance, are the most economical in the long run. They will out-wear and out-perform ordinary tools. They reduce working hazards and promote safety.
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SUPERIOR DROP-FORGED TOOLS
WRENCHES
MOST COMPLETE LINE IN U. S. A.
WESTERN WAREHOUSE & SALES OFFICE, CHICAGO: — WORKS, BUFFALO, NEW YORK

Better Tone Is Seen in Chicago Market With Tax Reduction Out of the Way

By SPECIAL CORRESPONDENT

CHICAGO, Jan. 2.—With the opening of the year, sentiment in the petroleum markets here appears to be considerably in the direction of higher tank car prices for gasoline, with refiners and carlot marketers reporting themselves to have received large numbers of orders for early January shipment. Now that the Federal tax reduction is out of the way, it appears the whole trade, buyers as well as sellers, are resuming a more nearly normal attitude toward the market.

The gasoline market came right up to the end of the year without the slightest change from the excessive dullness characterizing business for a month. Orders for immediate shipment were placed only where jobbers were in acute need of material for current consumption. However, the trade now seems more friendly toward the market, and some refiners once more are talking about comparatively low gasoline stocks soon, in view of these contract shipments and the fact that their operations are being curtailed decidedly by oil administration order.

Some of the most extreme cases of distress gasoline already appear to be absorbed. It is reported that some refiners have sold gasoline over January for resale below 4 cents a gallon but the volume involved probably is not large if this is the case. Jobbers, for their part, seem to be staying close to their limited-size order policy and while they have bought for early January shipment, they do not seem to have exceeded early requirements very much.

There is generally a better tone in the gasoline market. While recent cold weather has interfered with consumption, this was considered as being overdue. With gasoline stocks for most refining groups considered rather well in line with allowables, refiners regard the statistical position as in good shape and they are trying to analyze the reason for continued low prices. Numerous among them state they will shut down their plants soon if strong crude and relatively low gasoline prices continue. With the exception of some hot oil in East Texas, crude oil remains quite strong, according to information in responsible quarters.

Easiness of natural gasoline has about cancelled the cold weather as an influence on high gravity gasolines, which appear to be about stationary in price. So far as better grade antiknock gasolines are concerned, they are still relatively stable. They have softened a trifle along with low octane, but show little important change.

Two spots of price irregularity are developing in the central states. In metropolitan Detroit, regular and third grade service station prices are off one-half cent. In and around St. Louis q.d.a. to tank wagon consumers has been liberalized by lowering the necessary volume and increasing the discount slightly. Elsewhere price cutting is on about the same scale as recently—not eliminated, but certainly not as bad as six months or a year ago.

Kerosene remains extremely sluggish and subject to not the slightest market interest. On the other hand, the related distillates have come into great activity in the last 10 days because of extremely cold weather, although currently the interest is waning slightly. Good furnace oils and kerosene are about on a price parity, and straw zero gas oil is also scarce.

Fuels, especially No. 3, remain in sharp demand and are bringing fancy prices at various points in the Middle West, although in and around Chicago prices are more moderate. Burner oil distributors report the recent cold snap call for oil was at about all-time peak proportions for a short time. There is, however, some irregularity in this market, and it is tending a bit spotty.

Industrial products show no material change at the turn of the year. They appear to be waiting for some indication of crude market developments. Buyers are not rushing to make commitments, but the show of scattered industrial activity is encouraging. Fuels and lubricants alike are reflecting this situation, prices about unchanged.

Naphthas and solvents are coming into an apparently well-stabilized tank car market position, with a fairly good demand, although buyers have wished to keep their inventories as low as possible until into 1934.

Wax continues to hold the distinction of the outstanding strong product in the wholesale market, with both domestic and foreign inquiry brisk, especially for better grade material, and with sellers none too anxious to quote, although prices are not changed any further at this time.

A firm market situation is shown by petroleum coke, following recent advance in one or two grades. Leading sellers in this district report a fairly good demand for the bulk of their output.

Crude Oil Prices

(Continued from Page 23)

Rocky Mountain States

Iles, light (Sept. 29, 1933)	$.96
Iles, heavy (Sept. 29, 1933)	.90
Florence, Colo. (June 17, 1933)	.30
Fort Collins and Wellington, Colo. (June 17) (See Salt Creek prices)	
Big Muddy (Sept. 29, 1933)	1.01
Frannie, light (Sept. 29, 1933)	.87
Frannie, heavy (Sept. 29, 1933)	.62
Salt Creek and La Barge (Sept. 9, 1933)	
See Stanolind Mid-Continent price schedule	
Grass Creek, light (Sept. 29, 1933)	1.18
Grass Creek, heavy (Dec. 15, 1932)	.45
Elk Basin (Sept. 29, 1933)	1.18
Rock Creek (Sept. 29, 1933)	1.02
Dutton Creek (July 8, 1932)	
See Mid-Continent gravity prices	
Lance Creek (Dec. 16, 1932)	.92
Poison Spider (Mar. 5, 1931)	.70
Hudson (June 2, 1931)	.65
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osage (Jan. 18, 1933)	.52
Lost Soldier (Sept. 30, 1933)	.88
Hamilton Dome (Dec. 16, 1932)	.25
Torchlight (Sept. 29, 1933)	1.18
Greybull (Sept. 29, 1933)	1.18
Pondera	1.15
Sunburst (Sept. 29, 1933)	1.35
Cat Creek, Montana	1.07
Hogback (Sept. 29, 1933)	1.11
Lea County, N. Mex. (Sept. 29, 1933)	.75
Maljamar (Sept. 29, 1933)	.70
Artesia-Jackson (Dec. 1, 1933)*	.75

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, by Humble Oil & Refining Co. and other buyers: Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro.

*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	0.70
Urania, La. (Oct. 3, 1933)	.75
Nevada, Ark. (Sept. 29, 1933)	.60
East El Dorado (Sept. 29, 1933)	.70
Other fields (See gravity table)	

Note—Smackover: Effective September 29, 1933, Tex. Co., Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co., Nevada by Standard Oil Co. of Louisiana. Urania posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective October 4, 1933)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.
(Effective October 4, 1933)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.13
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.07
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.93
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Oct. 2, 1933)	1.33

PENNZOIL CO.
(Effective October 4, 1933)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$2.37
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	2.30
Includes Titusville district.	
Group C	2.25
Includes Turkey and Tidioute districts.	
Group D	2.24
Includes Bear Creek and Porkey districts.	
Group E	2.23
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.	
Price depends on length of pipe line haul to plant at Oil City.	

PURE OIL CO.
(Effective October 4, 1933)

Cabin Creek, W. Va.	$2.17
Bradford Hollow, W. Va.	2.17
Kelly Creek, W. Va.	2.17

Middle Western States

OHIO OIL CO.
(Effective September 29, 1933)

Lima	$1.30
Illinois	1.23
Princeton, Ind.	1.23
Plymouth	Shut in
Western Kentucky	1.18
Midland, Mich. (Sept. 30, 1933)*	1.02
Oceana, Mich. (Oct. 5, 1933)	.90
Somerset, Ky. (Sept. 30, 1933)	1.23
Hart County, Ky. (Oct. 1, 1933)	1.18

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Hart County, Kentucky, crude purchased by Stoll Refining Co. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co

Canada

Ontario (September 9, 1933):	
Petrolia*	$2.10
Oil Springs*	2.17
Turner Valley (December 9, 1933):†	
Clear naphtha	$3.15
Discolored naphtha	2.91
Crude oil, 50 gravity	2.66
Crude oil, 45 to 49.9	2.07
Crude oil, 40 to 44.9	1.56

*Imperial Oil, Ltd. †Imperial Oil, Ltd. and Regal Oil & Refining Co.

Mexico

Panuco*	$.75

*F.o.b. ship, based on November transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	0.65	....	$.65	$.65	$.65	$.65	....	$.65	0.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.72	.73	.69	.73	....	.69	.67	.68	.65	....	.65	....	....	....	.65
17-17.9	.69	.65	.75	.76	.73	.76	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.65	.78	.80	.76	.79	....	.75	.74	.74	.65	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	....	.83	.85	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.83	.89	.93	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.03	1.02	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1.06	1.06	1.09	....	....	....	1.04	....	1.16	....	....	1.01	1.05	1.01	.97	....	1.05
30-30.9	1.09	1.10	1.12	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1.15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.23	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

Additional Standard Oil Quotations

Elwood Terrace—F.o.b. ship, 33 degrees, $1.03; 34 degrees, $1.06 35-35.9, $1.09; 36-36.9, $1.12; 37 degrees and over, $1.15.
Newhall—14 degrees and over, 57 cents.
McKittrick and Kern River—14 degrees and over, 57 cents.
Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19-19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents; 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.
Kettleman Hills.—33-33.9 degrees, 93 cents; 34-34.9, 96 cents; 35-35.9, 99 cents; 36-36.9, $1.02; 37-37.9, $1.05; 38-38.9, $1.08; 39 degrees and over, $1.11.

The Texas Co. posted in Shiel Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.

General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon and Olinda up to 25-25.9, and Torrance up to 25-25.9.

Union Oil Co., effective September 6, posts same prices as Standard Oil Co. in all fields in which both purchase, excepting that in Athens-Rosecrans, Union Oil Co. posts 21-21.9, 72 cents, and 33-33.9, $1.18; 34-34.9, $1.21, and 35-35.9, $1.24.

Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 26 degrees and over; Seal Beach and Alamitos Heights, 26 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 25 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 25 degrees and over; Midway-Sunset, Elk Hills, Buena Vista Hills, 30 degrees and over. Also Associated pays 52 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills, and Coalinga.

Government Economist Explains Method Used

(Continued from Page 7)

necessary to obtain this supply. The various steps in this process are hereinafter described.

The consumer demand for petroleum products is determined primarily from a forecast of the probable demand for gasoline during the period for which required production of crude oil is being estimated. Experience has shown that if sufficient crude oil (when checked to meet fuel oil requirements) is produced to satisfy the demand for gasoline, the demand for the other products of crude oil will be adequately supplied.

Calculating Demand

The probable domestic demand for gasoline is calculated by multiplying the number of motor vehicles in use by the unit consumption of gasoline per vehicle. The method employed in determining the number of motor vehicles which will be in use during the period for which the forecast is being made is based upon a review of new car and total car registrations during the period 1925 and 1932, inclusive, the cars in use at the beginning of any year being the total registrations during the year less new car registrations made during the year. The number of cars to be scrapped during the period is calculated from data on registrations during the 13 years previous, using a formula to determine for the total cars placed in use during each of these years the percentage of which will be scrapped in each succeeding year. By the combination of such data for each of the years, cumulative data are available to show the number of cars of previous year's production which still are in use. The number of cars scrapped each year as determined by the use of the above formula is checked against actual scrapping as determined from car registrations. The formula is adjusted for present economic conditions. The monthly figures on cars in use are distributed on a percentage basis developed from previous experience in monthly fluctuations. From these data the probable number of cars in use during each month of the forecasting period is determined by adding the probable new car registrations to the probable cars in use at the beginning of the period and subtracting therefrom the probable number of cars to be scrapped during the period.

The number of motor vehicles in use, determined as above described, is then multiplied by the unit consumption of gasoline per vehicle. This unit consumption figure is determined from data covering the period from 1925 to 1932, inclusive, by dividing the total gasoline consumption each month by the number of motor vehicles in use during the corresponding month and correcting the trend for unusual fluctuations. The calculation shows a straight line trend, deviations from which are in accordance with economic conditions. Such deviations are correlated with the index of business conditions.

Unit Consumption

The figure for unit consumption of gasoline per motor vehicle is computed on such a basis as will include all of the nonautomotive consumption of gasoline. In other words, the relationship between automotive and nonautomotive gasoline consumption during the past several years has been relatively constant and the method of determining unit consumption, consequently, results in the inclusion of the nonautomotive utilization of gasoline in the figure for unit consumption.

In general it may be said of present conditions that the number of motor vehicles in use is approximately 7 per cent less than the number in use one year ago, whereas the unit consumption of gasoline per motor vehicle is slightly more than 7 per cent higher than it was a year ago. The net result of offsetting the increase in gasoline consumption per motor vehicle against the decrease in the number of motor vehicles in use results in indicating a slight increase in total motor fuel or gasoline consumption.

Through the multiplication of unit consumption per motor vehicle by the calculated number of motor vehicles which will be in use during the period covered by the forecast, there is determined the total quantity of gasoline which will be required for consumption within the United States. This figure is checked through an analysis of trends in domestic gasoline consumption in the territories served by the eight refining districts in the United States which have been employed by the Bureau of Mines in substantially the present form since the assembly and publication of petroleum refinery statistics was begun by the Bureau of Mines. The analysis of such trends is based upon gasoline tax returns during the period 1930 to 1933, to date, inclusive, the consumption in each district being expressed in terms of its percentage to the national consumption. Through the analysis of the relationship between gasoline consumption in each of the consuming districts, the trend in gasoline consumption in each of the areas is determined. These trends are utilized in checking the total figure as previously determined and also for the purpose of dividing the national consumption for each of the districts.

Having thus determined the probable consumption of gasoline in each of the districts, there is then added to the figure for each district the probable export of gasoline from that district during the period. The total of these two figures then represents the total gasoline demand, including domestic requirements and that needed for shipment to other countries and territories.

By Districts

The total gasoline requirement for each district is then divided into that which will be manufactured at refineries located within the consuming territory and that which will be received from other refining districts. This division is based upon an analysis of trends in the interregional movement of gasoline over the period 1932 and 1933, to date. By making such a calculation for each district and consolidating the requirements thus determined for each producing district, there is the quantity of gasoline which should be supplied from each producing district in order to meet the demand in the territory normally served by that district. These figures for regional demands are then adjusted to meet the requirements of normal seasonal fluctuations in stocks of gasoline held at refineries and bulk terminal plants. Through the adjustment of the demand figure with the normal seasonal fluctuation of stocks, there is determined the quantity of gasoline which should be produced within each district, either at petroleum refineries or from such miscellaneous sources of motor fuel supply as the output of stabilized gasoline at natural gasoline plants or the admixture of benzol.

From the required production of gasoline in each district, there is deducted the quantity which will be supplied through stabilized natural gasoline or the admixture of benzol, the remaining figure being the quantity of gasoline which will be required to be manufactured at petroleum refineries within each district. There is then deducted the quantity of natural gasoline which, it is calculated, will be blended with motor fuel produced from crude petroleum in each district. This quantity of natural gasoline is determined on the basis of the recorded operations in each district during the period 1930 to 1933 to date, inclusive. A deduction of the quantity of natural gasoline to be blended from the total gasoline to be manufactured at petroleum refineries in each district determines the quantity of gasoline which is to be manufactured from crude petroleum.

Experience of Refiners

The experience of petroleum refineries during the period 1930 to 1933 to date, as to the relative output of crude petroleum from straight distillation and by cracking, is then reviewed to determine the probable recovery factor which should be employed during the period under consideration to determine the quantity of crude petroleum which necessarily must be refined in order to produce the quantity of gasoline which it has been determined will be required to be produced through the refining of crude petroleum. The application of this factor determines the quantity of crude petroleum which will be needed at refineries in each district.

Data as to the interstate movement of crude petroleum from producing areas to petroleum refineries during the period 1932 to 1933 to date are then reviewed to determine the trends in the establishment of trade channels with respect to the movement of crude petroleum from producing districts to refining districts. The relationships thus determined are then applied to the quantity of crude petroleum which will be required by petroleum refineries in each district and there is thus determined the quantity of crude petroleum which will be required from each producing area to supply the requirement for crude petroleum in each refining district. These calculations are consolidated and there is determined the required production of crude petroleum in order to meet the refining needs during the period under consideration. Data on the exportation of crude petroleum during the period 1932 to 1933 to date are then reviewed to determine the probable export of crude petroleum from each producing district. In a similar manner the records of each producing district are examined to determine the quantity of crude petroleum which will be consumed directly as fuel, burned in field operations or lost in handling. The probable exports of crude petroleum, together with the probable amount which will be consumed directly as fuel or lost in each district are then added to the requirements of each district for crude oil for refining. The total of these items thus gives the total crude oil requirement for each producing district. The data employed are available in such form that these requirements are determined directly on the basis of producing states.

These figures then are finally checked in order to determine the effect of the resulting operations upon the available supply of fuel oil.

The number of barrels of crude oil required to be produced in Texas during the first quarter of 1934 to meet consumer demand for petroleum products during that period was determined in the following manner. Through the calculations, whereby, the probable number of motor vehicles in use during the first quarter of 1934 was multiplied by the unit consumption per motor vehicle, it was found that the total domestic demand for gasoline in the United States during that period would be 80,339,000 bbls.

Analysis of Trends

Through analysis of trends in regional consumption of gasoline, in each of the refining districts, it was determined that the demand for gasoline in Texas during the first quarter of 1934 would represent 5.4 per cent of the national consumption. The remainder of the national consumption during that period was divided as follows: East Coast, 36.3; Appalachian, 4.4; Indiana, Illinois, Kentucky, Michigan, etc., 27.9; Oklahoma, Kansas and Missouri, 7.2; Louisiana-Arkansas, 3.5; Rocky Mountain district, 2.4, and California, 12.9.

By multiplying the national demand of 80,339,000 bbls. by the Texas percentage of 5.4, it is determined that gasoline consumption within the borders of Texas would amount to 4,338,000 bbls. In addition, through the study of recent trends in gasoline exports, it was calculated that gasoline shipments from Texas ports to foreign countries and territories during the first quarter of 1934 would amount to 1,908,000 bbls. The addition of these exports and the probable increase of 640,000 bbls. of gasoline stocks to the figure of probable gasoline consumption within the State of Texas gives the figure of 6,886,000 bbls. as the gasoline and motor fuel requirement within the State of Texas during the first quarter of 1934. A small portion of this, calculated at 339,000 bbls., will be supplied from stabilized gasoline requirements within the State of Texas, determined by the subtraction of the miscellaneous supply from the total motor fuel requirements will amount to 6,547,000 bbls.

In addition to supplying the gasoline which will be consumed within its own borders, gasoline produced at refineries located in Texas is shipped to other areas, where it provides a portion of the supply necessary to meet the gasoline demand in those areas. Through observance of trends of these interregional gasoline movements, it was determined that 16,204,000 bbls. of gasoline would be shipped from Texas to other consuming districts of the United States. It is probable that the gasoline requirements of some consumers residing along the northern and eastern borders of Texas are supplied with gasoline from adjoining states. However, these gasoline shipments into Texas are believed to be relatively unimportant and are not considered in the calculations herein.

The addition of the shipments of 16,204,000 bbls. to the demand of 6,547,000 bbls. within the State of Texas gives the total demand for Texas gasoline during the first quarter of 1934 as 22,751,000 bbls.

Examination of Operations

Through an examination of refinery operations, it was calculated that, of the 22,751,000 bbls., 1,388,000 bbls. would consist of natural gasoline to be blended at refineries, and that 21,363,000 bbls. of gasoline would be produced from crude oil. Through the same examination of refinery operations, it was determined that the average recovery of gasoline from crude petroleum at Texas refineries during the first quarter of 1934 would be 43.5 per cent. By the application of this ratio to the required production of gasoline, it was determined that it would be necessary to refine 49,110,000 bbls. of crude petroleum at Texas refineries during the first quarter of 1934 in order to manufacture 21,363,000 bbls. of gasoline. Of the 49,110,000 bbls. which would be refined at Texas refineries during that period it was determined that 200,000 bbls. would be crude oil of foreign origin and 48,910,000 bbls. of crude petroleum of domestic origin.

In a similar manner, the required gasoline production in other districts was determined, and the quantity of crude petroleum necessary to provide for the manufacture of the required gasoline was determined. An examination of trends in the movement of crude petroleum from producing districts to refining districts was made, and, as a result, it was determined that a total of 35,951,000 bbls. would be shipped to the East Coast and other refining districts in the United States.

In addition to these requirements for Texas crude petroleum, it was determined from examination of the records of exports and direct uses of crude petroleum that 2,400,000 bbls. of Texas crude petroleum would be exported or burned directly as fuel during the first quarter of 1934.

The summation of these items gives a total of 87,261,000 bbls. of crude petroleum.

The examination of the interregional movements of crude petroleum showed that crude petroleum from Oklahoma, Louisiana and New Mexico is received within the State of Texas as part of the regular movement of crude petroleum in recognized trade channels. From this study, it was determined that the recepits of such crude petroleum would amount to 7,691,000 bbls. during the first quarter of 1934. The subtraction of this item of 7,691,000 bbls. from the total required, 87,261,000 bbls., gives 79,570,000 bbls. as the required production of Texas crude petroleum in order to meet consumer demand for petroleum products during the first quarter of 1934. That amount divided by 90 days for the period gives 884,000 bbls. daily.

Wheat Pool Wildcat Has Oil and Gas Showing; Three Interesting Tests in McMillan Pool

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Jan. 2.—The wildcat test of Hugo Freels and others on the Freeman ranch in Section 21, Block 2, H.&G.N. Survey, north of Pecos City and a short distance west of the Wheat Pool, Loving County, which had a showing of oil and gas last week at 3,950 feet in the Delaware sand, from which horizon wells in the former pool produce, is now shut down at 3,985 feet with 600 feet of fluid in the hole, of which 40 feet is water. It picked up the water sand at 3,980-85 feet, and water is to be shut off by plugging back. Top of the Delaware in the test was logged at minus 1,134 feet. Elevation is 2,721 feet.

Several abondoned tests in the county had good showings of oil and gas during the past few years, but so far no commercial producer has been completed in the area. However, the showings made in former tests have been sufficient to spur wildcatters to drill other tests in an effort to pick up sufficient sand to bring in a producer, and if this test does not prove a producer it will have its influence on the drilling of other tests seeking Delaware sand production. A block of some 4,000 acres is held by the operators.

Ordovician Test

The Ordovician wildcat drilling by the Gulf Production Co. on the McElroy ranch near the Crane-Upton County line in Upton County, Section 197, Block F, is now down 8,550 feet, with no showings of oil and gas. The hole is in good shape, no difficulties have been encountered and the company has no intention of giving up the test until oil or gas in commercial quantities is found or drilling halted by unforeseen troubles. It may terminate as the deepest test in Texas, and possibly the United States.

Western Crane County

Gulf Production Co.'s No. 1 Tubbs in Section 8, Block B-27, western Crane County wildcat brought in about three years ago, and the first well in the Permian Basin to make a commercial producer below the water table, swabbed 30 bbls. and flowed 26 bbls. of oil in the 24 hours ending 7 a.m. December 30 while cleaning out at 4,335 feet. Total depth is 4,342 feet. Cavings and tools in the hole recently shut off production and the company rigged up and has been working over the well to bring it back on production. Several tests have been drilled around it, all to no avail. Another test is drilling a short distance to the north, in Section 9, but is shut down at 4,510 feet for the holidays. It is being closely watched to note whether the area is to be extended in that direction, tests in other directions having failed to produce.

Southern Ward County

One of the best wells brought in in southern Ward County is in process of completion at this writing. This test, California Co.'s No. 1 Durgin, in Section 15, Block 34, H.&T.C. Survey, flowed 600 bbls. of oil in 16 hours at 2,526 feet in lime when tested. It is estimated good for at least 800 bbls. on 24 hours flow. Pay was logged from 2,221-2,516 feet, gas increased at 2,283-92 feet to around 10,000,000 feet per day. Four other tests in the county, one of which was in the Hutchings-O'Brien area, were being completed during the week, but completion reports could not be made until the wells were given their final tests.

Pecos County

Two tests of the Mid-Kansas Oil & Gas Co. in the Yates Field, Pecos County, are due for completion this week and a shallow well of Easter and McCurdy was completed in Section 27, Block 194, G.C. &S.F. Survey, in the shallow pay area north of the Yates Pool, this week.

Humble Oil & Refining Co.'s No. 1 White and Baker in Section 44, Block Z, T.C.R.R. Survey, Pecos County, has cored to 7,135 feet with no further showings below 6,710-26 feet. This is an Ordovician wildcat approximately 9 miles west of the Yates Field. Elevation is 2,715 feet.

Ector County

Frank Gilpin and others' No. 1 Blakeney in the SE cor. of Section 32, Block 43, Township 1n, T.&P. Survey, 1½ miles west of the nearest producer in the Stanolind-Cowden area, northern Ector County, encountered 2 bbls. of water per hour at 3,740-50 feet, cemented casing at 3,921 feet and shut off the water and is now drilling below 3,950 feet. This is an interesting test in view of the fact that it may limit this area on the west.

Skelly Oil Co.'s No. 1 Addis in Section 35, Block 43, Township 1s, T.&P. Survey, which will mean a slight extension east to the Addis area, Ector County, was shot with 300 quarts from 3,848-3,970 feet and showed a good increase in oil and gas after the shot. No gauge has been reported, but it is estimated good for 150 bbls. of oil per day. Total depth is 4,108 feet. It sprayed 50 bbls. oil per day and 6,000,000 feet of gas at this depth before being shot.

Atlantic Oil Producing Co.'s No. 1 Jones, 440 feet from the west and 2,310 feet from the north lines of Section 36, Block 43, Township 1s, is appearing as a half mile extension to the Addis Pool. It is drilling below 3,965 feet with the last showing of oil at 3,930 feet, spraying an estimated 2,000,000 feet of gas from 3,834 feet. It looks as if it would make a small producer after shooting, but also appears as an east edge well for this area which has been in for over a year, but which saw but little drilling and extending during 1933, with only small wells being completed. Deep and tough drilling, coupled with the fact that the wells are small, and many have to be given a shot, which is added expense, has not been favorable to the development of this and the Cowden area in the same county. However, pipe lines serve both areas and the oil is being taken, therefore companies holding leases in the areas are expected to drill them during 1934 and prove the limits of the two areas and whether they will connect, as is little expected.

Reagan County

Big Lake Oil Co.'s No. 13-C University, bottomed at 8,407 feet, is making 10 bbls. of oil per hour with an estimated gas production of 4,500,000 feet per day. This well extends the Ordovician production a half mile northeast in the Big Lake Field, Reagan County, and will result in more deep drilling in the extended area. Group No. 1 Oil Corp.'s No. 9-B University, edge well on the east of the deep producing area in the field, made a four-hour test, using dry gas from another well, and showed only 9 bbls. of oil and 66 bbls. of water per hour. It was recently plugged back to 8,692 feet and treated with acid before testing for a producer.

Big Lake Oil Co.'s No. 12-C University in Section 12, Block 2, is on gas lift, making 317 bbls. on December 25 and 134 bbls. on December 27. Total depth is 8,857 feet. This is a slight extension to the north in the deep producing part of the field.

Runnels County

Three interesting tests are to be completed in McMillan Pool, Runnels County, within a week or two. Agnew and others' No. 1 Fowler in Section 23, Travis Survey No. 533, is drilling below 2,475 feet and should be completed within a few days. Golden Petroleum Co.'s No. 2 McMillan, in the same survey, is underreaming 6⅝-inch casing at 2,410 feet. A string of 5½-inch casing will be set just above the pay. B. C. Mann and others' No. 1 Wade in the same survey, Lot 10, appearing as a good producer, is still shut down at 2,540 feet. Top of the pay was logged at 2,535-37 feet. It will probably be drilled in and completed immediately after the first of the year.

This high gravity producing area of Runnels County is expected to be completely drilled, or at least tested on all sides during the next few months. There are three outlets to the pool and the oil is in demand, giving an incentive for drilling which has been lacking during the past four years, since the field was brought in. The pool is not expected to prove of major importance as it has been defined on three sides by dry holes.

Most Active Areas

The year closes with Ward, Ector, Runnels Counties and the Yates Field, Pecos County, as the most active areas in the West Texas district. The district has not seen a great amount of wildcatting during the year, but several important tests were started, whereas others started in 1932 were abandoned. The year 1934 is expected to be a greater year for the district, especially if no major fields are developed in East Texas or the Gulf Coast, and right now there seems to be no threat in the former district although two possible areas may come through with major fields.

Gulf Production Co.'s No. 24 Hutchings, in Section 7, Block O, G.M.M.B.&A. Survey, northern Ward County, offsetting a 1-mile extension well to the Hutchings-O'Brien area, is now shut down at 2,390 feet waiting on cement to set after setting 7-inch casing. This is an important test in so far as it is an offset test in an extension area.

Gaines County

R. H. Gill and others' No. 1 Crews in Section 9, Block A-20, P.S.L. Survey, Gaines County, a 4,700-foot wildcat, is below 2,125 feet. It is about 10 miles north of the nearest wildcat failure, Mid-Continent's No. 1 Fisher, which had a showing of oil at 4,500 feet. Several other tests have been drilled in the county, but so far none has shown any possibilities of making commercial producers, although several showings of oil and gas have been logged in various ones.

WICHITA FALLS DISTRICT

Production in the Wichita Falls district showed a decrease of 100 bbls. per day for the week, averaging 57,455 bbls. per day. Production for the entire year showed a decrease of a little over 850,250 bbls. under 1932's total production. Proration, the low price of the crude, and lack of demand during the first six months of the year conspired to keep production down in this district during 1933.

Bad weather and the holidays resulted in a drop in activities in the district during the past week, but drilling and acid treating of wells has been heavy during the past few months and with 1934 looking as a good year to producers activities are expected to increase after the first. The daily allowable for the district remains at 56,500 bbls. after January 1 according to reports by the Railroad Commission.

PANHANDLE DISTRICT

The daily allowable for the Panhandle district is to remain at 42,000 bbls. after the first of the year, according to announcements from the Railroad Commission. Producers, refiners and some purchasers had asked for a larger allowable, as in other fields in the State, but it was not granted. Production in the district averaged 40,705 bbls. during the week. This is a decrease of 290 bbls. per day under the previous week's average.

COMPLETIONS IN WEST TEXAS

Irion County

Bristow and others' No. 1 J. N. Nutt, top pay 1,470 feet, initial production 30 bbls. on pump, total depth 1,475 feet. Strawn & Adkins' No. 2 Kuiser, temporarily abandoned, total depth 1,305 feet.

Pecos County

C. S. Messinger's No. 1 W. R. Jones, temporarily abandoned, total depth 940 feet.

Wildcat Operations in West Texas

Week Ending January 2

ANDREWS COUNTY

Company, well, farm name, section and block—	Remarks:
Fuhrman Pet. Co.'s No. 1-B Bonner, 1,320 ft. from N line and 1,320 ft. from E line of Sec. 25, Blk. A-43, P.S.L. Sur.	Derrick.

BREWSTER COUNTY

C. M. Joiner's No. 1 McIntyre	Drlg. up slips 1,010 ft.

CRANE COUNTY

Continental Oil Co.'s No. 2-C Cowden, 330 ft. from N line and 1,650 ft. from W line, Sec. 81, Blk. X, C.C.S.D.R.G.&N.G. Sur.	Drlg. 2,419 ft.; 850 ft. oil in hole.
Gulf Prod. Co.'s No. 1 Edwards, 330 ft. from S line and 330 ft. from E line of Sec. 21, Blk. B-18, Public School Land Sur.	Drlg. 3,455 ft.

CROCKETT COUNTY

Porter Rankin's No. 1 Todd, 1,500 ft. from N line and 1,020 ft. from E line of Sec. 68, Blk. UV, G.C.&S.F. Sur.	Location.

ECTOR COUNTY

Atlantic Oil & Prod. Co.'s No. 1 Holt, 1,980 ft. from N line and 660 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur.	Drlg. 3,920 ft.
Atlantic Oil & Prod. Co.'s No. 2 Holt, 660 ft. from N line and 1,980 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur.	Location.

(Continued on Page 36)

YOUNGSTOWN

OIL COUNTRY TUBULAR GOODS

STRENGTH FOR DEEP DRILLING

Every foot of the way down you will find Youngstown Pipe demonstrating that extra strength that makes it unsurpassed for deep drilling.

THE YOUNGSTOWN SHEET AND TUBE COMPANY

Manufacturers of Carbon and Alloy Steels

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Youngstown's pipe is distributed by --

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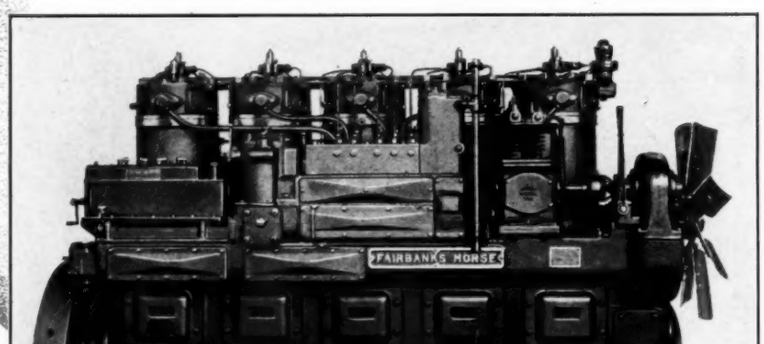

Fairbanks-Morse Model 44-D 5 Cylinder Diesel Power Engine

The Diesel Engine with its low fuel cost - low water requirements - dependability and portability is particularly desirable for wild-cat drilling and economically attractive for proven acreage drilling as well.

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CONTINENTAL

Second Long Lake Test Has Made No Showing; Another Has Possibilities of Being Producer

By L. E. BREDBERG

DALLAS, Tex., Jan. 2.—The second test on the Long Lake block of the Tide Water Oil Co. and Texas Seaboard Oil Co., in southwestern Anderson County, is waiting on cement to set after casing was run and cemented at 5,190 feet. Total depth is 5,352 feet where a drill stem test was made prior to setting the casing. It showed nothing. The test is 1,816 feet due west of the companies' discovery well, has been running lower than the former test, and so far has shown nothing to give encouragement to those drilling it.

The same companies' No. 3 Monnig, approximately three-quarters of a mile southeast of the discovery well, is now running about level with the discovery due to top of the Woodbine being logged at 5,153 feet. Top of the Austin was finally picked as at 4,647 feet with base at 4,850 feet. Top of the Austin was formerly reported at 4,560 feet. From 5,218-50 feet sandy shale with lenses of sand with slight showings of oil and gas was cored, making this test appear as having good possibilities of making a producer. It is nearly 100 feet in the Woodbine whereas No. 2 is 146 feet in the Woodbine. The discovery well topped the oil sand 98 feet in the Woodbine, and as this second test is running considerably lower, the dip to the west is shown as being very steep and consequently may eliminate this well from producing. With No. 3 running about normal on the Woodbine sand the pool now appears as having chances of running to the east of the discovery instead of to the west. A dry hole has been drilled 2¾ miles to the northwest, thus eliminating the pool from extending itself much in that direction, but it still can spread out to the south, southeast, north and northeast.

Leon County

Shell Petroleum Corp. and others' No. 1 Beggs in the John Carter Survey, Leon County, is making an estimated 25,000,000 feet of gas and some distillate through one line on a 1-inch choke. The operators are installing tanks and separator and a test will be made as soon as the hookup is completed.

Shell Petroleum Corp. and others' No. 1 Jones, in the J. F. Summeralls Survey, located between the gasser and a dry hole formerly drilled on the same block, is now drilling below 1,950 feet. The same operators' No. 1 G. W. Lee, in the William Cooper Survey, a couple of miles northeast of the Phillips dry hole, is rigging up rotary to drill immediately. Elevation on the derrick floor is 393 feet. This location was staked to test a separate structure from the one on which the Phillips dry hole, Beggs gasser and Jones test are drilling, and will be an exceptionally important test for this reason. The structure on which the Beggs gasser is located does not look so favorable for oil production since one dry hole and the gasser came in, and the structure to the northeast may prove the one to produce an oil pool.

E. L. Smith Oil Co. and others' No. 1 William Simpson in the Al Penn Survey, approximately midway between the Long Lake Pool, southwest Anderson County, and the Leon County gasser, and located in Leon County, is drilling below 3,825 feet in shale and shells. Surface elevation is 262 feet.

Cherokee County

General Oil Co.'s (formerly Cranfill & Reynolds) No. 1 Southern Pine Lumber Co. test in the M. Arrington Survey, in Cherokee County, is drilling below 5,100 feet in chalk and running low according to the best correlations that can be made. Elevation is 352 feet. This test has been closely watched by operators interested in the East Texas district, but now looks as if it is destined as another failure.

Anderson County

J. H. Howard, trustee, of Houston, is planning to deepen No. 1 Mrs. Jessie Walston, which is on a 56-acre tract in the M. Main Survey, Anderson County. This test was drilled to a total depth of 1,718 feet in 1931 and is to be carried to 4,400 feet under proposed plans.

Freestone County

Daniels Oil & Royalty Co.'s No. 1 J. F. Young in the L. Liggins Survey, northeastern Freestone County, made three drill stem tests but no showings of oil or gas were found, although the test had some sand. Total depth is 4,389 feet. This is one of the most interesting wildcats in this part of the district, especially because of the fact that it is located but a few miles from the Cayuga area of northwestern Anderson County, which has been getting a big lease and royalty play and is expected to be tested within a short time. The Tide Water Oil Co. and Texas Seaboard Oil Co., owners of the large Long Lake block in the southwestern part of the county, also hold a large block in the Cayuga area. They recently sold a large block of royalty and some leases in the area to the Stanolind Oil & Gas Co.

EAST TEXAS

The East Texas Field has been prorated to a little over 399,100 bbls. per day, which is calculated by taking 5 per cent of the hourly potential of the wells in the field. Key wells are used in making the potential tests. The basis of proration during the last period was 5.4 per cent of the hourly potential. There are now over 11,750 wells in the field, with an average of around 90 being completed each week. As the number of producers increases the percentage of the potential of the wells has to be decreased to keep the daily average of the field within or near the limits set by the Railroad Commission and the Federal oil administration.

Granting of the injunction to the Government by Federal Judge Randolph Bryant last week, to prevent certain operators from overproducing their properties prior to the handing down of the decision by the three-judge Federal Court in the Amazon Petroleum Corp.'s case against the Railroad Commission's orders, has undoubtedly put a stop to some of the overproducing which has been taking place for some time, and which has been increasing recently. "Hot oil" producers are not as willing to overproduce their properties in the face of a Federal injunction as they formerly were.

Production and Runs

Daily average production reported from the field for the week ending December 28 was 406,791 bbls. Total oil runs by main pipe line companies was 400,478 bbls., while runs to local refineries in the district was 46,403 bbls. No tank car shipments were reported for the week.

Storage Oil Held Up

Storage oil amounting to 190,000 bbls. which was withdrawn from storage by the F. H. E. Oil Co. for export shipment late in October is being held in the tanks on the Gulf Coast awaiting shipment. The shipment was supposed to have been to some refinery in Germany but it is reported the foreign purchasers have refused to go through with the deal for some reason and there is some doubt as to what will be done with the oil since the pipe line company which delivered the oil to the Gulf Coast refuses to release it for domestic sales, as it was labeled for export when the Planning and Co-ordination Committee granted the right to run it out of producer's tanks.

COMPLETIONS IN EAST TEXAS

North Gregg County

W. D. Ambrose's No. 9 George Jones, top sand 3,562 feet, initial production 48 bbls. in one-quarter hour through open tubing, total depth 3,644 feet; No. 4 George Jones, top sand 3,541 feet, initial production 48 bbls. in one-quarter hour through open tubing, total depth 3,622 feet; No. 5 George Jones, top sand 3,521 feet, initial production 48 bbls. in one-quarter hour through open tubing, total depth 3,591 feet. Atlantic Oil Producing Co.'s No. 22-B Burnside, top sand 3,472 feet, initial production 40 bbls. in one-quarter hour through open tubing, total depth 3,528 feet; No. 23-B Burnside, top sand 3,476 feet, initial production 40 bbls. in one-quarter hour through open tubing, total depth 3,525 feet; No. 10 Wilson, top sand 3,595 feet, initial production 40 bbls. in one-quater hour through open tubing, total depth 3,636 feet. East Texas Refining Co.'s No. 16 F. White, top sand 3,571 feet, initial production 50 bbls. in one-half hour through open tubing, total depth 3,615 feet. Fleming & Kimble's No. 7 J. A. Barnes, top sand 3,616 feet, initial production 90 bbls. per hour through open tubing, total depth 3,700 feet. Harry Hanburry's No. 1-B T. L. Bray, top sand 3,633 feet, initial production 65 bbls. per hour through open tubing, total depth 3,653 feet.

Humble Oil & Refining Co.'s No. 6 Clements, top sand 3,527 feet, initial production 18 bbls. in one-quarter hour through open tubing, total depth 3,555 feet; No. 25 Hughes, top sand 3,623 feet, initial production 64 bbls. per hour through three-quarters inch tubing choke, total depth 3,633 feet; No. 11-A D. Johnson, top sand 3,590 feet, initial production 87 bbls. per hour through three-quarters inch tubing choke, total depth 3,609 feet. Iowa Payne Oil Co.'s No. 4 J. W. Akin, top sand 3,519 feet, initial production 20 bbls. in 20 minutes through open tubing, total depth 3,600 feet. Magnolia Petroleum Co.'s No. 7 Clem Jones, top sand 3,623 feet, initial production 110 bbls. per hour through open tubing choke, total depth 3,650 feet.

Shell Petroleum Corp.'s No. 5-B Moore, top sand 3,541 feet, initial production 77½ bbls. in one-quarter hour through open tubing, total depth 3,603 feet. Tide Water Oil Co.'s No. 1 B. A. Skipper, top sand 3,558 feet, initial production 40 bbls. per hour through open tubing, total depth 3,565 feet. Twin Oil Co.'s No. 5 M. Bonner, top sand 3,622 feet, initial production 25 bbls. in one-quarter hour through open tubing, total depth 3,627 feet. Wilcox Oil Co.'s No. 3 Godfrey, top sand 3,571 feet, initial production 30 bbls. in one-half hour through open tubing, total depth 3,599 feet. Douglass-Williams' No. 2 C. L. Taylor, top sand 3,548 feet, initial production 115 bbls. through open tubing, total depth 3,578 feet. Yount Lee Oil Co.'s No. 7 Flemister, top sand 3,591 feet, initial production 59 bbls. through eleven-sixteenths inch tubing choke, total depth 3,611 feet.

South Gregg County

Texas Co.'s No. 27 M. T. Cole, top sand 3,500 feet, initial production 70 bbls. per hour through open tubing, total depth 3,549 feet. American Liberty Oil Co.'s No. 8 L. P. Griffin, top sand 3,546 feet, initial production 120 bbls. per hour through open tubing, total depth 3,554 feet. Byrd Frost Oil Co.'s No. 1 M. B. Hughy, top sand 3,585 feet, initial production 100 bbls. per hour through open tubing, total depth 3,630 feet. Gulf Production Co.'s No. 25-A Spear, top sand 3,553 feet, initial production 70 bbls. per hour through open

East Central Texas Wildcats

Week Ending January 2

ANDERSON COUNTY

Company, well, farm name, section and block—	Remarks
Standard of Kansas' No. 1 A. W. Johnson, 565 ft. from N line, 420 ft. from E and W lines of 22.8-ac. tract, Simon Sanches Sur.	Derrick.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 2 Long Lake Plantation, 1,866 ft. due W of Tide Water and Texas Seaboard Oil Co.'s No. 1 Long Lake, Simon Sanches Sur.	Cored 5,245-50 ft.; drlg. D.S. test; T.D. 5,350 ft.; to set csg.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 3 Long Lake Plantation, 3,732 ft. S of No. 1, 2,799 ft. E at R/A, Simon Sanches Sur. No. 1	S.D. 5,173 ft.; base Austin 4,850 ft.; top Woodbine 5,153 ft.; running low.

ANGELINA COUNTY

H. C. Jennings et al's No. 1 G. E. Davidson, 150 ft. out of SE cor. of Davidson tract, G. Messingill Sur.	Derrick.
J. M. Seward et al's No. 1 L. J. Dearman, 500 ft. from S and W lines of Dearman S 20-ac. tract, 2½ miles SE of Zavalla, J. T. Peavy Sur.	S.D. 1,720 ft.
R. W. Lynn and W. R. Rolfe's No. 1 Mrs. R. D. Hart, 330 ft. out of NE cor. of Hart 20-ac. tract, 1 mile E of Nash, Thomas Price Sur.	Location.

CHEROKEE COUNTY

Cranfill & Reynolds' No. 1 Southern Pine Lbr. Co., 330 ft. out of SE cor. of survey, N. Arrington Sur.	Drlg. 5,025 ft.
A. R. Lewis et al's No. 1 J. Bradford, 1,600 ft. from W line and 200 ft. from N line of 50-ac. tract, J. Laprella Sur.	Derrick.
A. F. Richardson's No. 1 P. Wood, 660 ft. from N line, 3,300 ft. from E line of 498-ac. tract, 14 miles E of Jacksonville, on Cherokee-Rusk County line, Ignacio Sanches Sur.	Derrick.

(Continued on Page 36)

tubing, total depth 3,578 feet. W. D. Hill and others' No. 1 J. S. and F. Elder, top sand 3,528 feet, initial production 30 bbls. per hour through open tubing, total depth 3,559 feet. Rhoads Drilling Co.'s No. 24 Sabine River, top sand 3,520 feet, initial production 50 bbls. in one-half hour through open tubing, total depth 3,566 feet; No. 23 Sabine River, top sand 3,520 feet, initial production 50 bbls. in 20 minutes through open tubing, total depth 3,543 feet. Shell Petroleum Corp.'s No. 9 Willoughby, top sand 3,532 feet, initial production 15 bbls in one-quarter hour through open tubing, total depth 3,596 feet. M. N. Travis' No. 1 I.&G.N.R.R., top sand 3,532 feet, initial production 50 bbls. per hour through open tubing, total depth 3,566 feet.

North Rusk County

Abercrombie & Harrison's No. 4 Cantrell, top sand 3,672 feet, initial production 125 bbls. per hour through open tubing, total depth 3,704 feet. American Liberty Oil Co.'s No. 2 Brock, top sand 3,546 feet, initial production 35 bbls. in one-quarter hour through open tubing, total depth 3,666 feet. Empire Gas & Fuel Co.'s No. 8 H. P. Leverett, top sand 3,682 feet, initial production 23 bbls. in one-quarter hour through open tubing, total depth 3,742 feet; No. 9 Leverett, top sand 3,666 feet, initial production 24 bbls. in one-quarter hour through open tubing, total depth 3,714 feet. Humble Oil & Refining Co.'s No. 103 L. D. Crim, top sand 3,652 feet, initial production 102 bbls. per hour through open tubing, total depth 3,687 feet; No. 34-B S. S. Laird, top sand 3,576 feet, initial production 60 bbls. per hour through three-quarters inch tubing choke, total depth 3,653 feet. Jones and Atlantic Producing Co.'s No. 5-B J. M. Crim, top sand 3,648 feet, initial production 92 bbls. per hour through open tubing, total depth 3,693 feet. McCullough & Zilke's No. 1 Hindman, top sand 3,605 feet, initial production 100 bbls. through one-half inch tubing choke, total depth 3,625 feet. Snowden & McSweeney's No. 7 F. Bean, top sand 3,615 feet, initial production 70 bbls. per hour through open tubing, total depth 3,653 feet.

American Liberty Oil Co.'s No. 12 R. W. Fair, top sand 3,598 feet, initial production 85 bbls. per hour through open tubing, total depth 3,625 feet. Devonian Oil Co.'s No. 10 J. Alfred, top sand 3,739 feet, initial production 90 bbls. per hour through open tubing, total depth 3,750 feet.

Humble Oil & Refining Co.'s No. 3 George Alexander, top sand 3,667 feet, initial production 15 bbls. per hour swabbing, total depth 3,733 feet; No. 39-A M. M. Kangerga, top sand 3,663 feet, initial production 59 bbls. per hour through open tubing, total depth 3,700 feet. Hunt Production Co.'s No. 8 Read, top sand 3,718 feet, initial production 25 bbls. in 16 minutes through open tubing, total depth 3,726 feet; No. 3 Thompson, top sand 3,728 feet, initial production 25 bbls. in one-quarter hour through open tubing, total depth 3,740 feet; No. 5-A S. Wilson, top sand 3,760 feet, initial production 35 bbls. in 11 minutes through open tubing, total depth 3,776 feet.

Magnolia Petroleum Co.'s No. 1 R. N. Neal, top sand 3,708 feet, dry and abandoned, total depth 3,753 feet, T. Smith Survey. Imperator Oil Co.'s No. 1 D. C. Joiner, top sand 3,729 feet, initial production 70 bbls. per hour through open tubing, total depth 3,734 feet. Mid-Kansas Oil & Gas Co.'s No. 53 M. M. Cross, top sand 3,640 feet, initial production 76 bbls. per hour through open tubing, total depth 3,655 feet; No. 55 M. M. Cross, top sand 3,619 feet, initial production 88 bbls. per hour through open tubing, total depth 3,630 feet; No. 55 W. T. Grissom, top sand 3,637 feet, initial production 80 bbls. per hour through open tubing, total depth 3,660 feet; No. 1 Kersh, top sand 3,635 feet, initial production 20 bbls. pumping per hour, total depth 3,636 feet; No. 2 Kersh, top sand 3,630 feet, initial production 60 bbls. per hour through open tubing, total depth 3,636 feet.

Octo Oil Co.'s No. 2 Ofton Thrash, top sand 3,640 feet, initial production 125 bbls. per hour through open tubing, total depth 3,721 feet. Olsen Brothers and Johnson, top sand 3,670 feet, initial production 70 bbls. in one-half hour through open tubing, total depth 3,693 feet.

Pansey Oil Co.'s No. 1 W. H. Frederick, top sand 3,595 feet, initial production 20 bbls. in five hours, pumping, total depth 3,650 feet. Sinclair Prairie Oil Co.'s No. 8 J. B. Wilson, top sand 3,649 feet, initial production 40 bbls. in one-half hour through open tubing, total depth 3,629 feet. Sonbar Oil Co.'s No. 7 A. P. Finney, top sand 3,629 feet, initial production 50 bbls. per hour through open tubing, total depth 3,705 feet. Stanolind and Pure Oil Companies' No. 24 R. A. Jones, top sand 3,604 feet, initial production 25 bbls. in one-half hour through open tubing, total depth 3,610 feet. Sun Oil Co.'s No. 4 Schuler & Schuler, top sand 3,601 feet, initial production 80 bbls. per hour through open tubing, total depth 3,641 feet. Texas Co.'s No. 8 J. W. Turner, top sand 3,726 feet, initial production 50 bbls. per hour through open tubing, total depth 3,805 feet.

Smith County

Byers and others' No. 2 F. Cole, top sand 3,795 feet, initial production 30 bbls. in 10 minutes through open tubing, total depth 3,798 feet. Sinclair Prairie Oil Co.'s No. 22-C Jarvis, top sand 3,675 feet, initial production 30 bbls. in one-quarter hour through open tubing, total depth 3,685 feet.

Upshur County

Steen Drilling Co.'s No. 4-A Lodin, top sand 3,689 feet, initial production 90 bbls. per hour through open tubing, total depth 3,740 feet. Stroube & Stroube's No. 9 R. J. Mackey, top sand 3,632 feet, initial production 45 bbls. per hour through open tubing, total depth 3,649 feet. Sun Oil Co.'s No. 2 John O'Byrne, top sand 3,673 feet, initial production 30 bbls. per hour through open tubing, total depth 3,685 feet.

WILDCAT COMPLETIONS

Hopkins County

Hager and others' No. 1 W. A. Irwin, top Pecan Gap 1,678 feet, base 1,720 feet, top Navarro 530-56 feet, top Taylor 1,189 feet, top Eagleford 2,761 feet, top Woodbine series 3,271-93 feet, top red beds 3,358-80 feet, top Woodbine sand 3,669 feet, dry and abandoned, total depth 3,682 feet, J. T. Belt Survey.

Van Zandt County

D. C. Delcambre's No. 1 A. Crim, top sand 1,201 feet, initial production 3 bbls. per day, pumping, total depth 1,304 feet.

Petroleum and Products Are Ideal Insecticides

(Continued from Page 16)

tained from sour gas treaters in refineries, makes a good spray for use during the dormant period.

Barium polysulphide may be used in the place of the lime sulphur for dormant spraying and for the control of the red spider.

Dissolve 2 ounces glue in 3 gallons of hot water, when cold add 1 gallon kerosene and 10 pounds powdered sulphur. This will make a paste which should be diluted with 200 gallons of water for use.

Sulphur is slightly soluble in petroleum distillates, approximately one-half per cent; gasoline, naphtha and kerosene making good solvents.

The lime sulphur sprays constitute one of the most important of the insecticidal preparations. There are several methods used for the preparation of this mixture, the one mentioned here is that suggested to be used when making the standard heated solution.

An iron kettle is provided in which the ingredients are to be combined. The formula is 1 part of quick lime, 2 parts of sulphur and 10 parts of water; the usual quantity made is 50 gallons. One-fourth of the water to be used is placed in the kettle and heated to about 125° F., then the lime is gradually added, being certain that there is 1 gallon water for each pound of lime added. Do not stir the mixture. When it begins to boil, the sulphur is sifted in while the mixture is stirred, then the heating is continued until the liquid becomes yellowish. The rest of the water is added and the heating continued for another hour. After straining, this solution should be a deep red color with a gravity about 30° Be. which is diluted at the rate of 1 to 30 (1° Be.) for summer use and at the rate of 1 to 7 (3.5° Be.) during the dormant period.

One to thirty parts of petroleum, kerosene, gas oil or other distillates, may be mixed with lime sulphur, as diluted for use, for improving its effectiveness.

Pyrethrum

Pyrethrum, commonly known as insect powder, is the finely pulverized dried flowers from plants of the chrysanthemum group. For many years, this powder has been used for dusting but more recently in the solution form. It is not injurious to man and is a favorite ingredient of the domestic spray used against flies and mosquitoes.

A good pyrethrum mixture may be made with: Pyrethrum 1 ounce, water 1 gallon, naphtha 1 gallon. The naphtha extract, containing about 10 per cent pyrethrum, is used as a spray against flies and mosquitoes.

Derris

Derris is a powder obtained from the roots of the tropical plant, deguelia papilionaceae, the toxic principle of which is due to the alkaloid tubatoxin. This substance is an effective poison against aphides, fleas, mites, flies and mosquitoes.

Derris is an active stomach poison when used in the proportion of 1 pound of derris to 100 gallons of water and is effective against the aphides in the very dilute solution of 1 pound to 400 gallons of water. It may be used with petroleum and naphthas. The following is very good for general purposes, especially against flies, mosquitoes and moths—the units are, parts naphtha or kerosene 80, pyrethrum 8, turpentine 5, derris 1, sassafras oil 1.

Hellebore

Hellebore is the powder made from the roots of plants belonging to the genus veratrum, the active principle being due to the alkaloid jervine. It is used to control the slug worm, gooseberry sawfly, wooly aphis, and may take the place of the arsenicals against leaf chewing insects.

Hellebore may be used as a spray with or without soap. Examples are: Crude oil one-fourth gallon, soft soap three-fourths gallon, hellebore 2.5 pounds, water 100 gallons. (2) Hellebore 1 ounce, naphtha 1 pint, water 1 gallon. A combination with pyrethrum contains: Pyrethrum 14 ounces, hellebore 2 ounces, naphtha 1 gallon.

Nicotine Sulphate

Nicotine is the alkaloid contained in the extract of the tobacco plant, the liquid extract used as an insecticide containing free nicotine or nicotine sulphate. It is not a strong stomach poison, apparently acting to cause paralysis of the motor nerves through condensation of the vapor on the walls of the tracheae and absorption of the liquid by the tissues. Nicotine is used for the control of aphis, thrips and other soft bodied insects.

The nicotine sulphate, containing 40 per cent nicotine, is one of the better known nicotine preparations. It is used in the proportions of 1 to 1¼ teaspoonfuls to 1 gallon of water; 1 ounce to 8 gallons, one-fourth pint to 25 gallons of water. These quantities may be used with soap solution, 1 ounce to the gallon. The killing power is extended by the addition of lubricating oil or kerosene. The spray should be used late in the afternoon or on a cloudy day to prevent burning with sunlight.

Bordeaux Mixture

There are several copper salts which have high toxicity against insects, but their use alone is limited because of the tendency to form acids which cause scorching of the foliage; for this reason a combination with an alkali is desirable. The best known combination is bordeaux mixture; this is prepared by treating a solution of copper sulphate with an excess of lime. This mixture is extensively used for the treatment of plant diseases. It is an important fungiside, an insect repellent and a powerful insecticide.

Copper sulphate 10 pounds, is dissolved in 50 gallons of water, the solution being hastened by dissolving the salt in hot water and then diluting to 50 gallons with cold water. The lime solution may be made from 4 to 10 pounds of quick lime in 50 gallons of water; add to this 1 to 30 gallons of a petroleum oil. The final mixture is made by slowly pouring these at the same time into a third vessel. The copper solution should be cold and the final mixture should be slightly alkaline; it is especially important that there shall be no excess copper sulphate present.

Paradichlorbenzene and Naphthalene

Paradichlorbenzene is an organic chemical compound found on the market in the form of flaked crystals. It is insoluble in water but may be used in petroleum emulsions. This insecticide is of value for control of the root borers and root aphids.

Naphthalene may be considered to be an insect inhibitor or repellent, since it is of low toxicity and does not behave as a poison to kill through its action on some vital organ. The characteristic odor is objectionable to a large number of insects, keeping them out of the treated area. Because the insects avoid the odor, it frequently prevents infestation through the deposition of eggs. The vapor of naphthalene has a stupefying effect, rendering some insects inactive for a considerable period, although if placed in fresh air they revive.

Paradichlorbenzene and naphthalene may be used in the solid form against insects which attack textile materials and furniture at the rate of 1 pound per 10 cubic feet of space enclosed. Sprays with the compound dissolved in naphtha are good and when the conditions are favorable, kerosene may be used. The combination of creosote 1 gallon, paradichlorbenzene or naphthalene one-half pound, and gasoline 1 gallon, is effective for treating building materials against termites.

Emulsifier

When making emulsions it is convenient to prepare a stock solution of the soapy liquid which may be diluted with the water solution of the chemicals or the petroleum liquid as desired. An emulsifier of the miscible oil type is made by heating together 2 quarts phenol, 2.5 quarts whale oil, 1 pound caustic potash in an iron vessel, stirring well, to 300° F. After removal from the fire and cooling for 30 minutes, 3.5 quarts of kerosene are added and then 5.5 quarts of water. The Connecticut formula, making use of this emulsifier, is: Emulsifier 8 parts, crude petroleum 18 parts, resin oil 4 parts, water 1 part. For use, this may be diluted with water in the proportion of about 1 part emulsified mixture to 15 parts water.

The soap-oil emulsifier may contain from 70 to 95 per cent oil blended with whale oil soap and a small quantity of water.

When making some mixtures, it is desirable that a nonsoap emulsifier should be used. Under such conditions milk, gelatine, iron hydroxide, copper sulphate, sodium silicate, zinc sulphate and other substances are used.

Tar and Asphalt

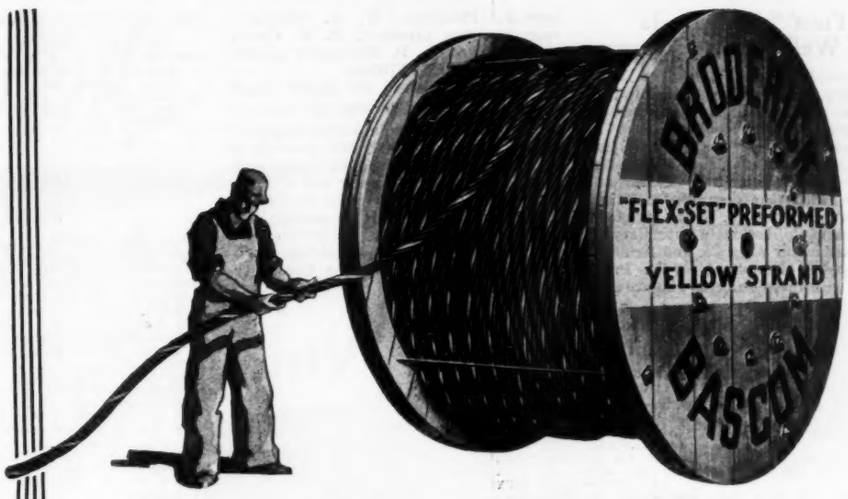
Residual tar and soft asphalts are used as insect repellents, either as a dip, for fence posts, or a banded ring on the bark of trees. Many different mixtures are used; an example is: Tar 7 gallons, petroleum 1 gallon, creosote 2.5 gallons. The tar is heated until it flows easily; after removing away from the fire, the blend of the petroleum and creosote is poured into it, with constant stirring.

Preforming Makes a Good Rotary Drilling Line Even Better

A "Flex-Set" Preformed Yellow Strand Rotary Drilling Line is a super-rope to start with. Freed of Internal Stress by preforming, it—

1. Is "pre-broken in." Limbered up. Wires and strands already adjusted to one another.
2. Is easier to handle. Takes less time to install, to socket, to splice, thereby saving money.
3. Has less internal friction.
4. Is more resistant to kinking.
5. Is less apt to bird-cage.
6. Is less likely to crush on drum.
7. Gets less external wear because it does not twist in grooves of sheaves.
8. Won't wicker. Broken wires lie flat. No damage to adjacent wires, to sheaves, to drum, to driller.
9. Works ideally with independent wire rope center.
10. LASTS LONGER—increased service far in excess of slight additional cost.

NRA MEMBER U.S. WE DO OUR PART



Greater Savings Than Ever

for oil men, since "FLEX-SET" Preformed Yellow Strand Rotary Drilling Lines have appeared. Same supreme grade of steel wire as in standard Yellow Strand. Same rigid tests. Same selecting of individual wires to produce a rope evenly balanced in elasticity, flexibility, toughness, tensile strength.

In addition, there are *ten distinct improvements,* any one of which makes it worth your while to use. (See panel at left).

The added "ton-miles" of service built into the line by preforming makes "Flex-Set" Yellow Strand the last word in economy.

The Continental Supply Co.

are distributors of Broderick & Bascom Oil Field Lines in all Mid-Continent Fields. Al stores carry ample stocks of "Flex-Set" Preformed Yellow Strand Rotary Lines and other excellent B & B products.

Give Continental men an opportunity to show you why Yellow Strand gives such excellent results.

Broderick & Bascom Rope Co., *St. Louis*

FACTORIES: St. Louis and Seattle.

R-7

"Flex-Set" Preformed Yellow Strand Rotary Drilling Lines

"Short'nin' " Was Basis of Well Known Company

(Continued from Page 14)

New Jersey, etc., must be taken into consideration, and it was seen that a nation-wide system of distribution must be be adopted. Air Reduction Sales Co. had oxygen and acetylene plants throughout the United States except in Texas, and affiliation with that organization would offer advantages to both. So the Magnolia Gas Products Co. became a subsidiary of the Air Reduction Sales Co. and its name was changed to Magnolia Airco Gas Products Co., with these officers, who are still serving: President, W. A. Sherman; executive vice president, R. F. Crow; vice president, G. B. Nicholson; general salesmanager, Ed Wilkins.

Mr. Wilkins joined the South Texas Cotton Oil Co. as a development engineer in 1919. He was made salesmanager of that company in 1922. He presents a paradox in that although he is manager of sales, he personally never sold a thing. He was chosen for the place he fills on the official staff because his training had fitted him particularly to develop the possibilities of oxygen and acetylene welding. He is a graduate of the University of Georgia.

East Central Texas Wildcats

(Continued from Page 33)

ELLIS COUNTY

Beckham et al's No. 1 L. S. R. Wood, 150 ft. from N line, 330 ft. from E line of Wood 186-ac. tract, A. D. Lagarza Sur. ..... Rig up.

FRANKLIN COUNTY

Van Emon et al's No. 1 O. S. Maxton, 910 varas W, 910 varas S of NE cor. of survey, John Brown Sur. .... Derrick.

FREESTONE COUNTY

Clyde Creighton's No. 1 Holly Bros., 854 ft. from W and center N and S lines of lease, A.B.&M. Sur. ..... Fishing for drill stem 5,260 ft.

Daniels Oil & Royalty Co.'s No. 1 T. F. Young, 750 varas from W line, 250 varas from S line of survey, L. Liggins Sur. ..... Drlg. 3,584 ft.

Hughes et al's No. 1 H. A. Shaw, 330 ft. out of NE cor. of H. A. Shaw 138-ac. tract, Simon Sanches Sur. No. 5 ..... Location.

GREGG COUNTY

Elliott et al's No. 1 Benson, 175 ft. from S line, and center E and W lines of tract, W. P. Chisum Sur. .. Drlg. 3,100 ft.

J. D. Hall et al's No. 1 Mrs. Gladys Utzman, 5,850 ft. from N line, 6,980 ft. from W line of survey, M. V. Winkle Sur. ..... Fishing 3,598 ft.

Max Rubin's No. 1 Sam Burton, 330 ft. out of NW cor. of 100-ac. lease, D. Sanches Sur. ..... Location.

Paul T. Rutledge's No. 1 M. T. Cole, 1,051 ft. S, 272 ft. E of NE cor. of Tice Water's Lacy lease, M. T. Cole Sur. ..... Derrick.

Teton Oil Co.'s No. 1 E. Stell et al, 330 ft. from N line, 50 ft. from W line of 119.92-ac. tract, John Wilkerson Sur. ..... Derrick.

HENDERSON COUNTY

Campbell and Champlin's No. 1 R. S. Ansley, 108 varas S, 623 varas W of NE cor. of lease, 6 miles SE of Buffalo, N. H. Thompson Sur. ..... Derrick.

HOPKINS COUNTY

Hager et al's No. 1 W. A. Irwin, 2,345 ft. from W line, 190 ft. from N line of survey, T. Belt Sur. ..... Coring 3,617 ft.

HUNT COUNTY

Meade and McKennie's No. 1 Love, 300 ft. from N line, 6,300 ft. from W line of 95-ac. tract, John Gilisky Sur. ..... Rig up.

LEON COUNTY

Cooper et al's No. 1 W. H. Cozart, 1,000 ft. from SE cor. of 266-ac. tract in SW part of county, Thomas Gardner Sur. ..... Derrick.

Shell Pet. Corp.'s No. 1 Begga, center of 123.5-ac. tract, John Carter Sur. ..... T.D. 6,14 ft.; 40,000,000 ft. gas; little distillate.

Shell Petroleum Corp.'s No. 1 J. N. Jones, 800 ft. from N line of survey and 1,000 ft. from E line of survey, J. F. Summeralls Sur. ..... Derrick.

Shell Petroleum Corp.'s No. 1 Lee, 1,500 ft. from NW and SW line of farm and survey, William Cooper Sur. ..... Location.

E. L. Smith's No. 1 W. P. Simpson, 1,320 ft. from S and E lines of survey, Alfred Penn Sur. No. 693 ... Drlg. 2,780 ft.

Standard Oil Co. of Kansas' No. 1 A. W. Johnson, 466 ft. from NE line, 466 ft. from NW line of 100-ac. tract, Simon Sanches Sur. No. 7 ..... Location.

Sutton and Hawkins' No. 1 F. C. Wilson, 300 ft. out of NW cor. of Wilson 55-ac. tract, A. Ogden Sur... Spudded and S.D.

LIMESTONE COUNTY

C. M. Joiner et al's No. 1 S. A. Knapp, 1,000 ft. from N and W lines of tract and survey, 1½ miles N of Falls County line, Luke Moore Sur. ..... Drlg. 635 ft.

Lone Star Gas Co.'s No. 3 Barron, 1,853 ft. from W line, 1,390 ft. from N line of survey, E. Mabrey Sur. .... S.D. 1,635 ft.

MORRIS COUNTY

Buchanan et al's No. 2 Staggers, 150 ft. from W line, 500 ft. from S line of survey, 3 miles NW of Daingerfield, John D. Nelson Sur. ..... Derrick.

NAVARRO COUNTY

H. T. Braselton et al's No. 1 H. L. Albritton, 150 ft. out of NW cor. of 100-ac. tract, 1½ miles E of Roane S.D. 1,160 ft.

RAINES COUNTY

J. W. Hallsell et al's No. 1 P. F. Jones, 400 ft. out of SW cor. of 22-ac. tract, 2½ miles S of Alba, B.B. B.&C. Sur. ..... Derrick.

RUSK COUNTY

Merrick et al's No. 1 D. C. Joiner, 6,500 ft. from N line, 2,780 ft. from W line of survey, F. Cordova Sur.. Waiting on cmt. to set; T.D. 3,734 ft.

Pansy Oil Co.'s No. 1 W. H. Frederick, 600 ft. from N line, 4,800 ft. from W line of survey, Ximines Sur. .. Waiting on standard rig; T.D. 3,672 ft.

UPSHUR COUNTY

Cranfill & Reynolds' No. 1 C. T. Crosby, 660 ft. from S and E lines of 190-ac. tract, 4,000 ft. E of Cranfill & Reynolds' No. 1 Rash, P. L. Clawer Sur. ..... T.D. 3,768 ft.; tested salt water plugged back to 3,733 ft.

C. H. Lyons et al's No. 1 E. H. Crosbie, 330 ft. out of SE cor. of lease and survey, C. Witcher Sur. ..... Swabbing; flowing little by heads. T.D. 3,711 ft.

Mansell et al's No. 1 C. B. Mackey, 2,480 ft. from N line, 3,340 ft. from E line of survey, J. M. Pineda Sur. ..... Fishing 3,711 ft.

B. F. Phillips' No. 1 Lad Johnson, 900 ft. from S line and 335 ft. from E line of lease, W. R. Stevens Sur. ..... Rig up.

VAN ZANDT COUNTY

Gray and Williams et al's No. 1 Paschall, 590 ft. from E line, 200 ft. from N line of 39-ac. tract, 5 miles NW of Jackson, D. Y'Barbo Sur. ..... S.D. 4,050 ft.

J. O. Griffith's No. 1 Bruce & Gibbard, 1,000 ft. from S line, 330 ft. from E line of 134-ac. tract, G. Martinez Sur. ..... Drlg. 200 ft.

Humble O. & R. Co.'s No. 1 J. D. Listenbee, 150 ft. out of SW cor. of W 15 acres of 30-ac. tract, John Goodman Sur. ..... Waiting on pumping equipment.

Humble O. & R. Co.'s No. 1 S. R. Ray, 200 ft. S, 160 ft. W of J. D. Listenbee 30-ac. lease in Nacogdoches County School Lands Sur. ..... Set csg. 115 ft.

Pure Oil Co.'s No. 9 N. E. Clark, 730 ft. N of S line and 200 ft. E of W line of N. E. Clark and J. R. Houston 94.5-ac. tract, W. N. Black Sur. ..... Drlg. 3,000 ft.

Pure Oil Co.'s No. 9 W. F. Swain, 300 ft. S of N line and 450 ft. E of W line of W. F. Swain 40-ac. tract, John Walling Sur. ..... Location.

Ray Drlg. Co.'s No. 1 J. W. Mallory, 1,150 ft. from S line, 150 ft. from W line of 217-ac. tract, John Walling Sur. ..... Derrick.

Wildcat Operations in Texas Panhandle

Week Ending January 2

CARSON COUNTY

Company, well, farm name, section and block— Remarks:

Reiger et al's No. 1 Foster, 330 ft. from N and E lines of SW Sec. 93, Blk. 7, I.&G.N.R.R. Sur. ..... Drlg. 2,600 ft.

Skelly Oil Co.'s No. 25 (West) Schaffer, 1,320 ft. from S line, 2,200 ft. from W line of Sec. 87, Blk. 4, I.&G.N. Sur. ..... Bldg. rig.

GRAY COUNTY

Anderson & Bean's No. 3 J. C. Vollmert, 330 ft. from S line, 330 ft. from E line, SW Sec. 140, I.&G.N. Sur., Blk. 3 ..... Cellar.

Chism et al's No. 1 J. M. Carpenter, 330 ft. from N line, 330 ft. from E line of SE Sec. 37, H.&G.N. Sur., Blk. 25 ..... S.D. 2,892 ft.

Dyke Oil Co.'s No. 1 Saunders, NW cor. 8½ NW Sec. 3, Blk. 1, B.S.&F. Sur. ..... Rig up.

Gulf Prod. Co.'s No. 5 Ellis Cockrell, 330 ft. from N and E lines, S½ Sec. 2, Blk. M-21, T.C.R.R. Sur. ... Location.

Hendron et al's No. 1 Husselby, 330 ft. S and E, SW SW Sec. 11, Blk. A-9, H.&G.N. Sur. ..... Rig.

Mazda-Shell's No. 4 Coombs-Worley, 990 ft. from N line, 330 ft. from E line, Sec. 35, Blk. 3, I.&G.N. Sur.. Rig.

Skelly Oil Co.'s No. 1-B L. H. Webb, 745 ft. from E line, 540 ft. from S line of NE Sec. 43, H.&G.N. Sur., Blk. 25 ..... Rig up.

Skelly Oil Co.'s No. 7 Vicars, 1,320 ft. from N line, 330 ft. from W line of E½ NW Sec. 127, Blk. 3, I.&G.N. Sur. ..... Rig up.

Skelly Oil Co.'s No. 4 Webb, 330 ft. from N line, 330 ft. from E line, Sec. 16, Blk. 25, H.&G.N. Sur. ..... Bldg. rig.

Sun Oil Co.'s No. 2-B Combs-Worley, 330 ft. from S line, 990 ft. from E line of SW of Sec. 34, I.&G. N. Sur., Blk. 3 ..... Shut in 2,936 ft.

Texas Co.'s No. 11 Cook-Faulkner, 1,310 ft. from W line, 1,145 ft. from N line of W 172 acres of Sec. 29, Blk. 2-B, H.&G.N. Sur. ..... Drlg. 1,690 ft.

F. H. Yealy's No. 2 Crank, 960 ft. from N and E lines of N 160 acres of W 400 acres of Sec. 163, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 3,015 ft.

HUTCHINSON COUNTY

Stanolind O. & G. Co.'s No. 2-C Ware, 330 ft. from S line, 330 ft. from E line, Sec. 20, Blk. M-21, T.C. R.R. Sur. ..... Rig up.

WHEELER COUNTY

H. R. Anderson's No. 1 R. L. Harlan, 330 ft. from N line, 330 ft. from E line of NW Sec. 49, H.&G.N. Sur., Blk. 24 ..... Rig up.

Wildcat Operations in West Texas

(Continued from Page 32)

Atlantic Oil & Prod. Co.'s No. 1 Jones, 2,310 ft. from N line and 440 ft. from W line of Sec. 36, Blk. 43, Twp. 2s, T.&P. Sur. ..... Drlg. 1,000 ft.

Broderick & Calvert's No. 1 Cowden, 1,980 ft. from S line and 1,980 ft. from N line of Sec. 16, Blk. 43, Twp. 2s, T.&P. Sur. ..... Drlg. 3,810 ft.; S.G. 3,771 ft.

Continental Oil Co.'s No. 1 Holt, 660 ft. from W and 1,980 ft. from S line of Sec. 20, Blk. A, P.S.L. Sur. ... Drlg. 1,056 ft.

Gilpen et al's No. 1 Blakeney, 330 ft. from S, 440 ft. from E line of Sec. 32, Blk. 43, Twp. 1n, T.&P. Sur... Set csg. 3,940 ft.

Harrison et al's No. 2 Addis, 990 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur. ..... Rig burned; T.D. 3,836 ft.

Harrison et al's No. 1 Addis, 1,650 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur. ..... Location

Humble Oil & Ref. Co.'s No. 1 H. Pegues, 330 ft. from N and 440 ft. from E line of Sec. 38, Blk. 43, T.&P. Sur. ..... Cellar.

Skelly Oil Co.'s No. 1 Addis, 990 ft. from N line and 2,200 ft. from E line of Sec. 35, Blk. 43, Twp. 2s, T.&P.R.R. Sur. ..... T.D. 3,980 ft; est. 50 bbls. per day; T.P. 3,825 ft.

Fred Turner's No. 1-B F. V. Addis, 440 ft. from the E line and 330 ft. from S line of Sec. 35, T.&P.R.R. Sur., Blk. 43, Twp. 2s ..... Flow 320 bbls. first 24 hrs. after shot; T.D. 4,073 ft.

Fred Turner's No. 2-A Addis, 2,310 ft. from N and 440 ft. from E of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur. ... Cellar.

FISHER COUNTY

Condor Pet. Co.'s No. 1 Holley, 1,170 ft. W and 660 ft. from N lines of E half, Sec. 6, Blk. R, W. E. Richardson Sur. ..... Cellar.

Cranfill & Reynolds' No. 3 J. H. Young, 330 ft. W and 330 ft. S of NE cor. of survey, Sec. 208, B.B.B.&C. Sur. ..... Drlg 150 ft.

Stanolind Oil & Gas Co.'s No. 3 F. Steele, 660 ft. from S and 2,310 ft. from W line of Sec. 210, Blk. 1, B.B.B.&C. Sur. ..... Material.

Merry Bros. and Perini's No. 1 J. J. Steele, 440 ft. E and 150 ft. N of SW cor. NE Sec. 210, B.B.B.&C. R.R. Sur. ..... Drlg. 2,385 ft.

Mid-Continent Petroleum Corp.'s No. 2 Pardue, 672 ft. from N and 330 ft. from E line of Sec. 203, B.B.B. &C. Sur., Blk. 1 ..... U.R. 10-in. csg. 1,950 ft.

Roeser and Hill's No. 1 Hill, 661 ft. from N and 330 ft. from E line of NW of Sec. 193, B.B.B.&C. Sur., Blk. 1 ..... Drlg. 2,350 ft.

E. L. Smith Oil Co.'s No. 1 fee, 450 ft. from S and 330 ft. from E, Sec. 203, Blk. 1, B.B.B.&C. Sur. ..... Moving in material.

Southern's No. 1 King, 660 ft. from N and 330 ft. from W line of SW Sec. 193, B.B.B.&C. Sur. ..... Drlg. 110 ft. on new hole.

Southern Oil Co.'s No. 1-A Pardue, 1,310 ft. from S and 990 ft. from E lines of Sec. 202, B.B.B.&C. Sur. ..... Drlg. 2,735 ft.

Texas Inland Oil & Gas Co.'s No. 1 First National Bank of Hamlin, 1,980 ft. from N and 990 ft. from W, Sec. 191, Blk. 1, B.B.B.&C. Sur. ..... Drlg. 2,050 ft.

Texas Co.'s No. 4 T. A. Jean, 990 ft. from N and E lines of Sec. 201, Blk. 1, B.B.B.&C. Sur. ..... Location.

GAINES COUNTY

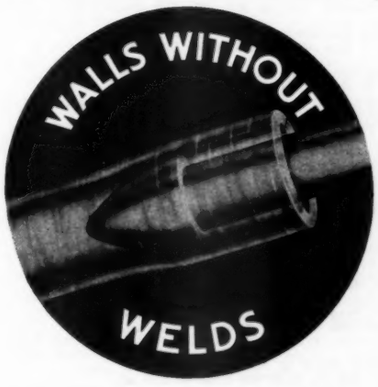
R. H. Gill et al's No. 1 Crews, 1,320 ft. from S and 1,320 ft. from W line of Sec. 9, Blk. A-20, P.S.L. Sur... Drlg. 1,230 ft.

GLASSCOCK COUNTY

Continental Oil Co.'s No. 1 Gilbreath, 330 ft. from N line and 1,980 ft. from E line of Sec. 34, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 2,145 ft.

Empire Gas & Fuel Oil Co.'s No. 2 Hall, 330 ft. from N and W lines of Sec. 21, Blk. 33, Twp. 2s, T.&P. Sur. ..... Material.

Additional Safety! Greater Durability! Increased Economy!



Where is the refinery superintendent who wouldn't like to realize these advantages in his cracking tubes and piping? If you have in your plant pressures, temperatures, or corrosive conditions that are too severe for ordinary piping material, then NATIONAL 4%–6% Chromium Pipe and Tubes will give you a new measure of both safety and economy. Cracking still tubes, hot oil transfer lines, heat exchangers, condenser tubing, return bends, and steam boiler water wall tubes, are examples where the gain will be very marked. The destructive action of sulphur dioxide and other sulphur compounds is greatly retarded by this special alloy. Summarizing its advantages here's what you gain from these superior tubes: (1) improved strength at high temperatures, (2) greater immunity to corrosion, (3) better resistance to oxidation or scaling, (4) increased ductility for bending and forming, (5) accurately controlled heat treatment, (6) superior quality electric-furnace steel, (7) wide range of sizes and lengths, (8) seamless walls—no welds, (9) upset or otherwise formed ends if desired, (10) exclusive "Sentry" drilling when ordered. Write for more detailed information.

NATIONAL TUBE COMPANY · PITTSBURGH, PA.

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

Humble Oil & Ref. Co.'s No. 3 Arrington, 330 ft. from N line and 330 ft. from E line of Sec. 31, Blk. 33, Twp. 2s, T.&P. Sur. ..... R.U. to pump; T.D. 2,281 ft.
Humble Oil & Ref. Co.'s No. 2 Washer, 330 ft. from N and 1,650 ft. from E line of Sec. 20, Blk. 33, Twp. 2s, T.&P. Sur. ..... Cellar.
Humble Oil & Ref. Co.'s No. 4 Arrington, 330 ft. from N line and 990 ft. from W line, Sec. 22, Blk. 33, Twp. 2s, T.&P. Sur. ..... Rigging up rotary.
Lawson et al's No. 1-C Edwards, 1,250 ft. from E and 1,323 ft. from S line of Sec. 16, Blk. 33, Twp. 2s, T.&P. Sur. ..... Standardizing 1,100 ft.
Noble Drlg. Co.'s No. 2 Baker, 330 ft. from N line and 330 ft. from E line of Sec. 22, Blk. 33, Twp. 2s, T.&P. Sur. ..... T.D. 2,182 ft.; preparing to pump.
Simms Oil Co.'s No. 3-A Coffee, 330 ft. from S line and 1,650 ft. from W line of Sec. 15, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. plug 2,090 ft.

HOWARD COUNTY

L. C. Harrison et al's No. 2 Texas Land & Mortgage Co., 2,310 ft. from E line and 330 ft. from the S line of Sec. 4, T.&P.R.R. Sur., Blk. 30, Twp. 1s ..... Location.
Merrick & Lamb's No. 9 Chalk, 330 ft. from E line and 330 ft. from S line of lease, Sec. 125, Blk. 29, W.&N.W. Sur. ..... Drlg. 1,110 ft.
Plymouth Oil Co.'s No. 9 Kloh et al, 2,640 ft. from the N. line and 1,980 ft. from W line of Sec. 5, Blk. 32, T.&P.R.R. Sur., Twp. 2s ..... T.P. 2,355 ft.; T.D. 2,390 ft.; to pump.
Schermerhorn Oil Co.'s No. 1 Kloh, Sec. 3, Blk. 32, Twp. 2s, T.&P. Sur. ..... T.D. 2,500 ft.; preparing to pump.
Joe Rusk et al's No. 2 G. M. Dodge Estate, 330 ft. from N line and 2,310 ft. from the E line of Sec. 9, H.&T.C.R.R. Sur., Blk. 30, Twp. 2s ..... Drlg. 1,570 ft.
Sinclair Prairie Oil Co.'s No. 9 Dodge, 310 ft. from N line and 1,625 ft. from W line of Sec. 11, Blk. 30, Twp. 1s, T.&P.R.R. Sur. ..... T.D. 2,815 ft.; hole full oil after 300-qt. shot from 2,605-2,815 ft.
Southern Oil Co.'s No. 1 Denman, 2,310 ft. from N line and 330 ft. from W line of Sec. 10, Blk. 30, Twp. 1s, T.&P.R.R. Sur. ..... T.D. 1,150 ft.; ran 8-in. csg.
Ungren & Frazier's No. 1 Davis, 330 ft. from S line and 990 ft. from W line of Sec. 2, Blk. 30, Twp. 1s, T.&P. Sur. ..... T.D. 2,476 ft.; hole full oil.

IRION COUNTY

Williams-Short's No. 1 Gentry, 2,200 ft. from N line and 2,080 ft. from W line of Sec. 1, Blk. 2, H.&T.C. Sur... Fishing tools 570 ft.

JONES COUNTY

Jack Roberts' No. 2 Swann, 2,200 ft. from N and 1,600 ft. W of SE cor. of I. Milley Sur. ..... Drlg. 1,110 ft.

LOVING COUNTY

R. L. Allen's No. 1 fee, 4,290 ft. from NE line, 330 ft. from SE line, Sec. 83, H.&T.C. Sur. ..... Location.
R. L. Allen's No. 2 fee, 4,290 ft. from NE line, 990 ft. from SE line, Sec. 83, Blk. 33, H.&T.C. Sur. .... Location.
R. L. Allen's No. 3 fee, 4,290 ft. from NE line, 990 ft. from NW line, Sec. 83, Blk. 33, H.&T.C. Sur. .... Location.
R. L. Allen's No. 4 fee, 4,290 ft. from NE line, 330 ft. from NW line, Sec. 83, Blk. 33, H.&T.C. Sur. ..... Location.
Eppenauer Drlg. Co.'s No. 1-A Victor, 330 ft. from SW and 330 ft. from SE of NW of N half Sec. 4, Blk. 2, W.&N.W. Sur. ..... Rigged up.
Sinclair Prairie Oil Co.'s No. 1 Allen, 330 ft. from SE lines and 990 ft. from SW lines of Sec. 4, Blk. 2, W.&N.W. Sur. ..... Drlg. 1,675 ft.
Sinclair Prairie Oil Co.'s No. 2 Bell, 410 ft. from SE and 1,035 ft. from NE of Sec. 91, Blk. 1, W.&N.W. Sur. ..... Derrick.
Texas Pacific Coal & Oil Co.'s No. 1 Carmine, C of SE of SW of Sec. 40, Blk. 54, Twp. 1, T.&P. Sur. ..... Location.

PECOS COUNTY

California Oil Co.'s No. 1 Reid, 1,087 ft. S and 498 ft. W from the NW cor. of Sec. 61, Blk. 1, I.&G.N. Sur. ..... Drlg. 1,325 ft.
California Oil Co.'s No. 23 Yates, 315 ft. W of No. 1 Reid, Sec. 34, Blk. 194, G.C.&S.F. Sur. ..... Rig.
Culberson Bros.'s No. 15-B Monroe, 735 ft. from N line and 1,380 ft. from E line of Sec. 39, Blk. 194, G.C.&S.F.R.R. Sur. ..... Location.
Easter & McCurdy's No. 3-A Shell-Smith, 875 ft. N of Shell Pet. Corp.'s No. 7-A Smith, Sec. 27, Blk. 194, G.C.&S.F. Sur. ..... Set csg. at 800 ft.
Humble Oil & Refining Co.'s No. 1 White, Baker, 1,320 ft. from N and E lines of Sec. 44, Blk. Z, T.C. Sur.... Drlg. 6,955 ft.
Mid-Kansas Oil & Gas Co.'s No. 10 Smith, 150 ft. from N line and 250 ft. from E line of Sec. 31, Blk. 194, G.C.&S.F. Sur. ..... Location.
Mid-Kansas O. & G. Co.'s No. 18 Smith-Taylor, 1,296 ft. from S line, 1,320 ft. from W line, Sec. 33, G. C.&S.F. Sur., Blk. 194 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 22 Smith-Taylor, 350 ft. from S line and 324 ft. from W line of NW cor. of Fred Turner, Jr., Sur. No. 3, but located in Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Jarring on tools; T.D. 1,400 ft.
Mid-Kansas Oil & Gas Co.'s No. 24 Smith-Taylor, 350 ft. W of S half of Turner Tract No. 1, Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Bldg. road.
Mid-Kansas Oil & Gas Co.'s No. 10 M. A. Smith, 150 ft. from N and 250 ft. from E line of most soutnerly NE cor. of survey, Sec. 31, Blk. 194, G.C.&S.F. Sur... Machine.
Mid-Kansas Oil & Gas Co.'s No. 8 Fred Turner, Jr., 263 ft. from N and 55 ft. E of N half of Tract No. 1, Fred Turner Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 26 Smith-Taylor, 344 ft. W of SE cor. of S half of Turner Tract No. 1, Sec. 33 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 26 Smith-Taylor, 395 ft. S and 344 ft. E of SE cor. of S half of Tract No. 1 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 1 Turner, 1,312 ft. from N line and 250 ft. from W line of Turner Sur. No. 2.. Drlg. 950 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Turner, 350 ft. from N line and 250 ft. from W line of Turner Sur. No. 2.. Bldg. road.
Mid-Kansas Oil & Gas Co.'s No. 3 Turner, 739 ft. from N and 309 ft. from W line of Turner Sur. No. 4 .... Location.
Mid-Kansas Oil & Gas Co.'s No. 2 Fred Turner, 535 ft. from S line and 500 ft. from W line of Tract No. 2.. Bldg. road.
Mid-Kansas Oil & Gas Co.'s No. 6 Fred Turner, 250 ft. from W line and 625 ft. from S line of Tract No. 1.. Drlg. 610 ft.
Mid-Kansas Oil & Gas Co.'s No. 7 Turner, 395 ft. from S line and 344 ft. from E line of Tract No. 1 ..... Ran csg. 820 ft.
Mid-Kansas Oil & Gas Co.'s No. 8 Fred Turner, 204 ft. S and 55 ft. W of the most northerly NW cor. of I. G. Yates Sur. A-8,195, but in Fred Turner, Jr., Survey, Tract No. 1 ..... Cellar.
Mid-Kansas Oil & Gas Co.'s No. 11-E Yates, 481 ft. from N line and 250 ft. from E line of Sec. 32, Blk. 194, G.C.&S.F. Sur. ..... Drlg. 1,475 ft.
Mid-Kansas Oil & Gas Co.'s No. 12-H Yates, 408 ft. S of N line of Sec. 33 and 344 ft. W of SE cor. of S half of Tract No. 1 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 13-H Yates, 408 ft. S of N line of Sec. 33 and 344 ft. E of SE cor. of S half of Tract No. 1 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 26-A Yates, 250 ft. N and 324 ft. W from the NW cor. of Turner Tract No. 2 in Sec. 34½, I.G. Yates Sur. ..... Bldg. road.
Mid-Kansas Oil & Gas Co.'s No. 27-A Yates, 250 ft. N and 321 ft. E of NW cor. of the Turner Tract No. 3 in Sec. 34½, I. G. Yates Sur. ..... Drlg 1,550 ft.
Mid-Kansas Oil & Gas Co.'s No. 38-A Yates, 250 ft. E and 205 ft. S from the NE cor. of Turner Tract No. 3 in Sec. 34½, I. G. Yates Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 39-A Yates, 150 ft. N and 350 ft. W of the NW cor. of Turner Tract No. 4 in Sec. 34½, I. G. Yates Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 40-A Yates, 344 ft. from E line and 395 ft. from N of SE cor. of S half of Turner Tract No. 1 ..... Preparing to spud.
Mid-Kansas Oil & Gas Co.'s No. 41 I. G. Yates, 480 ft. W and 204 ft. S of the most northerly NE cor. of I. G. Yates Sur. A-8,195 ..... Drlg. 460 ft.
Mid-Kansas Oil & Gas Co.'s No. 42 I. G. Yates, 204 ft. S and 55 ft. E of the most northerly NW cor. of I. G. Yates Sur. A-8,195 ..... Clearing location.

REAGAN COUNTY

Big Lake Oil Co.'s No. 12-C University, 938 ft. from N, 740 ft. from E line of Sec. 12, Blk. 2, University land ..... T.D. 8,857 ft.; 203 bbls. in 24 hrs.; 15,000,000 ft. gas; some wtr.
Big Lake Oil Co.'s No. 14-C University, 725 ft. from S line and 2,730 ft. from E line of Sec. 25, Blk. 9, University Land Sur. ..... Drlg. 5,965 ft.
Big Lake Oil Co.'s No. 15-C University, 660 ft. from E line and 660 ft. from S line of Sec. 25, Blk. 9, University Land Sur. ..... Rig up.
Group No. 1 Oil Corp.'s No. 5-B University, 1,900 ft. from S line, 1,805 ft. W of E line of Sec. 39, Blk. 9, University Land Sur. ..... P.B. to 8,692 ft.; treated with acid; not tested.
Group Oil Co.'s No. 10-B University, 1,900 ft. from N and 1,805 ft. from E line, Sec. 36, Blk. 9 ..... Cellar.
Snyder et al's No. 1 Hughes, 1,320 ft. from N and W lines of Sec. 14, G.C.&S.F. Sur. ..... Fishing 1,055 ft.

REEVES COUNTY

Hugo Freels et al's No. 1 Greenman, 330 ft. from NE and 2,310 ft. from SE, Sec. 21, Blk. 2, H.&G.N. Sur... Drlg. 3,985 ft.; 600 ft. of fluid in hole, 40 ft. of water.

RUNNELS COUNTY

Agnew et al's No. 1 H. B. Fowler, 150 ft. S and W of NE cor. of Sec. 23, N. Travis Sur. No. 533 ..... U.R. csg. 2,434 ft.
Golden Pet. Co.'s No. 2 McMillan, Subdv. 22, N. Travis Sur. ..... Drlg. 2,310 ft.
B. C. Mann et al's No. 1 H. E. Wade, 150 ft. from S and 1,650 ft. from W line, Subdv. No. 8, Norvel Travis Sur. No. 533 ..... T.D. 2,540 ft.
Mann et al's No. 1 Wade, 330 ft. from N and 330 ft. from E of NW cor. of E 75 acres of S 306.6 acres, Blk. 10, N. Travis Sur. ..... T.D. 2,539 ft.; T.P. 2,537 ft.; 25 bbls. per hr.
Thomas et al's No. 1 Wade, 2,597 ft. from N and 2,140 ft. from E of Subdivision, N. Travis Sur. No. 10.... S.D. 750 ft.
F. D. Williams' No. 1 J. L. Elkins, 2,235 ft. from E and 1,300 ft. N of SW cor. of Blk. 12, but in Blk. 13, N. Travis Sur. No. 533 ..... Moving in material.

UPTON COUNTY

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W. Sec. 197, Blk. F, C.C.S.D.&R.G.N.G.... Drlg. 8,450 ft.

WARD COUNTY

Abell Brothers' No. 1 Archenhold et al, 2,310 ft. from NE line and 330 ft. from SE line of Sec. 34, H.&T.C. Sur., Blk. 5 ..... Testing 3,045 ft.
Atlantic Oil & Prod. Co.'s No. 9 Johnson, 330 ft. from NE line and 990 ft. from NW line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,125 ft.
Atlantic Oil & Prod. Co.'s No. 10 Johnson, 990 ft. from NE line and 330 ft. from NW line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
Atlantic Oil & Prod. Co.'s No. 12 Johnson, 990 ft. from SE line and 990 ft. from NE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,200 ft.
Atlantic Oil & Prod. Co.'s No. 13 Johnson, 330 ft. from NE line and 330 ft. from SE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Cellar.
Atlantic Oil & Prod. Co.'s No. 14 Johnson, 330 ft. from NE line and 2,310 ft. from NW line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Testing; T.D. 2,523 ft.
Atlantic Oil & Prod. Co.'s No. 15 Johnson, 330 ft. from SE line and 1,650 ft. from NE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
California Oil Co.'s No. 1 Durgin, 990 ft. from SE line and 330 ft. from SW line of Sec. 15, Blk. 34, H.&T.C. Sur. ..... T.D. 2,883 ft.; est. 10,000,000 ft gas at 2,883 ft.; S.O. 2,316 ft.
California Oil Co.'s No. 2 J. F. York, 2,982 ft. from SW and 1,650 ft. from NW cor. of Sec. 10, Blk. 34, H.&T.C. Sur. ..... Drlg. 1,820 ft.
Eastland Oil Co.'s No. 2 Johnson, 1,980 ft. from SE line and 1,980 ft. from SW line of Sec. 34, Blk. 34, H.&T.C. Sur. ..... T.D. 2,450 ft.; gas killed.
Gulf Prod. Co.'s No. 22 Hutchings, 990 ft. from N line and 330 ft. from W line of Sec. 4, Blk. F, G.&M.M. B.&A. Sur. ..... Drlg. 2,450 ft.
Gulf Prod. Co.'s No. 24 Hutchings, 1,549 ft. from N line and 440 ft. from W line of Sec. 7, Blk. O, G.&M.M. B.&A. Sur. ..... Drlg. 1,485 ft.
Gulf Prod. Co.'s No. 38 O'Brien, 990 ft. from S line and 990 ft. from E line of Sec. 16, Blk. F, G.&M.M. B.&A. Sur. ..... Drlg. 2,575 ft.
Gulf Prod. Co.'s No. 39 O'Brien, 990 ft. from N line and 990 ft. from E line of Sec. 17, Blk. F, G.&M.M. B.&A. Sur. ..... Drlg. 2,105 ft.
Gulf Prod. Co.'s No. 40 O'Brien, 1,650 ft. from N line and 330 ft. from E line of Sec. 17, Blk. F, G.&M.M. B.&A. Sur. ..... Fishing 305 ft.
Gulf Prod. Co.'s No. 41 O'Brien, 1,650 ft. from N and 990 ft. from E lines of Sec. 17, Blk. F, G.M.M.B.&A. Sur. ..... Cellar.
Humble Oil & Ref. Co.'s No. 1 University, 990 ft. from N line and 440 ft. from E line of Sec. 2, Blk. 16, University Sur. ..... Drlg. 1,915 ft.
Simms Oil Co.'s No. 1 Massey, 2,310 ft. from SW line and 2,310 ft. from SE line of Sec. 14, Blk. 34, H.&T.C. Sur. ..... Testing 2,456 ft.; flowed 15 bbls in 24 hrs.
Sinclair Prairie Oil Co.'s No. 3 H. Archenhold, 330 ft. from NE lines and 330 ft. from SE lines of SW of Sec. 33, H.&T.C. Sur., Blk. 5 ..... T.D. 3,043 ft.; est. 300 bbls. per day after shot.
Sinclair Prairie Oil Co.'s No. 4 Archenhold, 2,310 ft. from NW line and 2,310 ft. from SW line of Sec. 33, Blk. 5, H.&T.C. Sur. ..... Drlg. 2,260 ft.
W. B. Smith's No. 1 Wallis, 2,636 ft. from NE line and 157 ft. from SE line of Sec. 19, Blk. 34, H.&T.C. Sur... Location.
Sturm-Simms Oil Co.'s No. 1 Jones, 2,310 ft. from NE and 330 ft. from SE, Sec. 25, Blk. B-29, P.S.L. Sur. .. Drlg. 2,701 ft.
S. A. Thompson's No. 1 Johnson, 1,650 ft. from SW line and 2,310 ft. from SE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Testing; T.D. 2,534 ft.
S. A. Thompson's No. 5-A Johnson, 2,310 ft. from NW and 1,650 ft. from SW cor. of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Rig up.

WINKLER COUNTY

Magnolia Pet. Co.'s No. 4 Scarborough, 1,650 ft. from N line and 330 ft. from W line of Sec. 1, Blk. 77, P.S.L. Sur. ..... Drlg. 960 ft.
Sinclair Prairie Oil Co.'s No. 3 W. F. Scarborough, 1,650 ft. from E line and 990 ft. from N line of Sec. 1, Blk. 17, P.S.L. Sur. ..... Drlg. 2,610 ft.

New Pool Opened in Isabella Township, Mich.; Producers Completed in Four Other Pools

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., Jan. 2.—In a determined attempt to keep within the State's allowable of 29,000 bbls. a day despite continually mounting potentials and the opening of a new pool, the Michigan petroleum proration committee last week reduced the percentage of allowable on all wells over a minimum of 100 bbls. from 12 to 10 per cent. Although the 10 per cent proration order made retroactive to December 8 is considered too drastic both by the committee and by operators, the Michigan oil industry is united in backing the new proration with a hope that some increase may be allowed after completion of an investigation now being made under the direction of Secretary Ickes.

Daily estimates compiled by the proration committee as of December 22 for 10 Michigan fields were as follows:

Fields—	Potential	Runs
Porter	103,784	18,151
Greendale	3,801	3,801
Vernon	3,647	3,187
Chippewa	1,894	1,894
Yost	1,821	436
Leaton	488	488
Muskegon	524	524
Oceana	299	299
Ogemaw	2,004	194
Saginaw	142	142
Total	118,404	29,116

With new developments continuing in Michigan increasing the potential of existing pools, adding new producers in pools recently opened and opening entirely new pools, it is doubtful whether even the new 10 per cent schedule of proration will be restricting enough to keep the output from exceeding the allowable of 29,000 bbls. a day now tentatively established for the first three months of 1934.

Third New Pool

Wittmer Oil & Gas Co. this week opened its third new pool in Michigan with the completion of its No. 1 John McReavy, E half SW Section 12-15n-4w, Isabella Township and County, as a 65-bbl. oil well in the Dundee pay. This well opens a new area about half way between the Vernon gas and Leaton oil pools in Vernon and Denver Townships, of Isabella County, respectively. The new well is about a mile and a half east of the village of Rosebush. It was located by Victor E. Henninger, Michigan representative of the Wittmer company, and J. W. Cashdollar, of the company's Pittsburgh, Pa., headquarters, who also located the discovery wells of the Leaton and Vernon Pools.

Four other completions, one in each of four pools, added more than 4,000 bbls. of initial production. The largest, George W. Hanner's No. 1 George Hathaway, SE SE NE Section 17-13n-1w, Porter Township, Midland County, made 3,519 bbls. in 24 hours after topping the Dundee at 3,378 feet and the pay at 3,417 feet. The rig was moved three times before this well was finally completed.

Two new wells in the Mount Pleasant area are Michigan Gas & Oil Co.'s No. 5 J. P. Marthey, SW NW SE Section 19-15n-2w, Denver Township, Isabella County, which made about 60 bbls. a day as a new Dundee well in the Leaton Pool and Michigan Producers & Refiners' No. 2 Pringle heirs, NE S half NW Section 14-14n-2w, Greendale Township, Midland County, which made 250 bbls. initial, striking the Dundee at 3,545 feet.

A. S. Cochran, Muskegon contractor, completed Clarence Johnson's No. 1 Oceana Center Grange, NE SE Section 36-15n-17w, Hart Township, Oceana County, with an initial production of about 200 bbls. a day in the upper Traverse, topped at 1,887 feet and drilled in to 1,889 feet.

Osceola County

An interesting show of gas was encountered by Sun Oil Co. in No. 1 William O. Flemming, a wildcat, NE SE NW Section 5-17n-8w, Evart Township, Osceola County. Gas was struck at 1,349 feet in the Michigan series, a stray sand just above the Marshall formation, in which a show of black oil also was reported. As neither were in commercial quantities drilling will be continued to the Traverse or Dundee.

Mecosta County

James M. Taggart's No. 4 Robert S. Fish, C SE NE Section 4-14n-9w, Austin Township, Mecosta County, set casing at 1,220 feet with formations reported 12 feet higher than in the No. 3 Fish recently completed as the State's largest dry gasser with an open flow capacity of 27,500,000 feet a day from the Michigan series. No. 4 Fish is expected to be drilled in this week as the fifth gasser in the Mecosta County Pool, now rated as high as the Broomfield Township Pool with an open flow of about 50,000,000 feet a day.

Ogemaw County

Two Ogemaw County tests drilled deeper than the upper Traverse when they failed to produce were being treated this week, one for possible gas production in the Dundee limestone and the other for gas in the upper Traverse. A third Ogemaw test failed in the upper Traverse but may also be drilled to the Dundee.

Ira Schieffley's No. 1 William Gay, SE SE SE Section 23-22n-1e, Ogemaw Township, topped the Dundee limestone at 2,760 feet and picked up a show of gas about 25 feet in but no oil as far as 40 feet in, or 2,800 feet. It was to be treated. W. J. Sovereign's No. 1 Griffin, NW SW NW Section 29-22n-2e, West Branch Township, will be plugged back from a total depth of about 2,000 feet to a gas show encountered at 1,830 feet deep. Thompson Brothers' No. 1 Grover W. Zettle, NE NE SW Section 13-22n-1e, Ogemaw Township, failed to produce in the upper Traverse but probably will be deepened. C. A. Perry's No. 1 Wobig Heirs, SW SW NE Section 6, Mills Township, shut down at 1,600 feet since it was unsuccessful in the upper Traverse, will resume drilling with a new rig.

Pure Oil Co. has a rig up for its No. 1 Hart, NE NW NE Section 34, West Branch Township, and has made location for No. 1 Fisk, SW SE SW Section 27, same township. McClanahan Oil Co. has made locations for two new tests, No. 1 Carroll, NE NW NW Section 29, West Branch, and No. 1 Heintz, NW NW NW Section 24, Ogemaw Township. It is also reported R. T. Jones plans early drilling of a test in Section 20 offsetting Theodore Oil Co.'s Country Club well.

Porter Township Pool

Wells nearing completion in the flush Porter Township Pool were: Davis Oil Co.'s No. 4 Neitzke, NE NW NW Section 21-13n-1w, Porter Township, Midland County; Pure Oil Co.'s No. 4 Howard, Section 17, and No. 2 Younglove, Section 17; Stork Oil Co.'s No. 2 Hill, Section 22; Bradner & Vaughn Development Co.'s No. 1 State Bank, W. J. Wilson's No. 2 Hathaway, Section 17; Stewart & Gordon's No. 3 Carter, Section 21; Wells Brothers' No. 1 Otway, Section 22; George Hanner's No. 3 Hathaway, Section 17, and Gordon Oil Co.'s No. 4 Diebel, Section 18.

O. H. O'Neal's No. 1 Caywood, in Section 6, Porter Township, had a show of oil at 3,455 feet but ran into bottom water at 3,465 feet on a location 1 mile east of the Yost-Jasper Pool and 3 miles north of the Porter Pool.

Montcalm County

Daily Crude Oil Co.'s No. 1 Christensen, discovery well of a new pool in Section 10, Home Township, Montcalm County, recently brought in for about 150 bbls. a day in the upper Traverse, is still making about 100 bbls. a day but will be treated. It is the highest gravity upper Traverse well discovered in Michigan. The new Montcalm crude is reported to be 44 gravity, sweet and the "finest Michigan crude."

Howard D. Atha, of Gordon Oil Co., new president of the Oil and Gas Producers Association of Michigan, recently appointed 10 standing committees for the ensuing year, chairmen as follows: Taxation, Charles L. Maguire, of Roosevelt Oil Co., Mount Pleasant; legislative, Robert W. Atha, of Atha Oil Co., Mount Pleasant; cost production, Pliny del Valle, of Pure Oil Co., Saginaw; contractors, E. C. Fiedler, J. C. Arthurs Drilling Co., Mount Pleasant; proration, Dr. Virgil R. D. Kirkham, geologist and producer, Saginaw; code committee, C. L. Maguire, of Mount Pleasant; publicity, Haswell W. Grant, attorney and first president of the association, of Mount Pleasant; membership, Doctor Kirkham; rules, Howard D. Atha, and marketing, W. L. McClanahan, head of the McClanahan Oil Co., of Mount Pleasant.

The Simrall Pipe Line Co. has completed a new 3-inch line from Theodore Oil Co.'s No. 1 Ogemaw County Club well in Section 20, West Branch Township, Ogemaw County, to a new loading rack a mile and a half away. The Country Club well is good for 150 to 200 bbls. a day from the upper Traverse formation.

The Oil Man's Calendar

1934

January

6-13—New York, National Automobile Chamber of Commerce.

8-9—Fargo, N. Dak., Northwest Petroleum Association, North Dakota Division, Waldorf Hotel.

11-12—Minneapolis, Minn., Northwest Petroleum Association, Minnesota division, West Hotel.

18—Oklahoma City, Okla., Okla-Petroleum Marketers Association.

22-25—Detroit, Mich., Society of Automotive Engineers, annual meeting. (Annual dinner, New York, January 8.)

25-26—Sioux Falls, S. Dak., South Dakota Independent Oil Dealers Association.

27-Feb. 3—Chicago, National Automobile Chamber of Commerce.

February

6-7—Des Moines, Iowa, Iowa Petroleum Association.

13-15—Columbus, Ohio, Ohio Petroleum Marketers Association.

Louisville, Ky., Kentucky Petroleum Marketers Association.

March

5-9—Washington, D. C., American Society of Testing Materials, Committee D-2.

22-24—Dallas, Tex., American Association of Petroleum Geologists annual meeting, Baker Hotel.

April

16-21—Houston, Tex., Oil Equipment and Engineering Exposition.

19-20—Cleveland, Ohio, National Petroleum Association.

Philadelphia, Pa., American Oil Burner Association.

May

3-4-5—Kansas City, Mo., twelfth Midwest regional meeting of American Chemical Society.

12-19—Tulsa, International Petroleum Exposition.

9-10-11—Tulsa, Natural Gasoline Association of America, New Hotel Tulsa.

22-24—Pittsburgh, Pa., midyear meeting, A.P.I. divisions, William Penn Hotel.

November

12-15—Dallas, Tex., annual meeting, A.P.I.

Texas Railroad Commission Issues New Proration Order

The Texas Railroad Commission has issued a new order fixing the allowable production of crude oil in various fields and districts in Texas effective from 7 a.m., December 31, 1933, until April 1, 1934, allocating the 884,000 bbls. per day assigned to Texas by the Federal agency. There is not much change in the new order covering the various fields from the order effective December 1 and published in detail on Page 26 of The Oil and Gas Journal of December 7.

The new order fixes the allowable for East Texas at 399,187 bbls. per day based upon 5 per cent of the potential of the wells in this field as of December 26. It is reported that there were 11,831 wells in the East Texas Field having a combined hourly potential of 7,436,150 bbls. Allowance has been made for the 1,500 marginal wells in the field allowed a flat 20 bbls.

The old allowable for East Texas was 407,863 bbls. and the new order reduces this by 8,676 bbls. and changes the percentage from 5.4 to 5 per cent. This created some confusion immediately after the order was issued because the percentage reduction did not check with the number of barrels allowed the field. It was later found that the new potential of December 26 formed the basis for the new field order.

This new order will affect each well in the field because it is based upon 5 per cent of the well's potential and wells that formerly had 54 bbls. for their 1,000-bbl. hourly potential will now be reduced to 50 bbls.

Commission Fixes Kansas Potential Production at 314,600 Barrels Per Day; Quiet in Field

By JAMES McINTYRE

A combination of holiday and cold weather slowed up the Kansas fields last week and the number of completed wells and new operations both fell off to a surprising degree.

The Kansas Corporation Commission held a meeting on Thursday in Wichita and after mulling over reports on potentials of the fields and pools of the State fixed the State's potential at 314,600 bbls. per day and on that basis began to make up the allowables on the different producing areas.

There is a tendency on the part of some of the operators in the flush and semiflush fields to object to the custom of putting all the responsibility on the newer pools in keeping production down to the Federal allowable. They make the claim that the lime fields in Butler, Greenwood and Cowley Counties have been increased in production by the use of acid and that these pools should bear a larger share in the curtailment program. The allowable for Kansas in the first three months of the year is cut to 110,000 bbls. per day.

Production by Pools

Estimated daily average production of important pools in Kansas for the week ending December 30 and for the preceding week was as follows:

Field or pool—	Dec. 30	Dec. 23
Hollow	9,185	8,587
Ritz-Canton	12,875	11,995
Voshell	8,595	9,656
Sedgwick County	4,350	3,767
Nikkell	3,833	3,766
Ellsworth	3,573	3,201
Barton County	554	1,040
Rice County	7,825	7,346
Reno County	2,248	2,135
Ellis County	138	342
Kingman County	1,494	1,260
Stafford County	462	916
Russell County	3,568	4,949
Greenwood County	12,000	10,700
Butler County	17,000	16,500
Other pools	22,155	20,910
Total	109,855	106,370

The Klassen 80 acres in Section 33-21-3w, Nikkell Pool, McPherson County, owned by J. E. Mabee, Inc. and Shell Petroleum Corp., now has four producing wells with combined potential of 6,917 bbls.

In McPherson County, McBride, Inc., acidized No. 3 Koehn, NE NW Section 33-21-3w, at 3,440-48 feet and later it pumped 23 bbls. per hour.

Slick, Pryor & Lockhart's No. 3 Stucky, CWL SW Section 27-20-3w, was completed. It made 883 bbls. in 24 hours on a potential test producing from Wilcox sand at 3,392-3,414 feet.

Shell Petroleum Corp. and others' No. 4 Meyers, C SW SE Section 14-19-2w, took a potential test and made 447 bbls. in 24 hours after deepening from 2,928 feet to 2,937 feet.

Spitz and others completed No. 1 Bair, NW SW SE Section 29-19-1w. It had been acidized in Viola lime at 3,451-56 feet and pumped 55 bbls. of oil and 300 bbls. of water in 24 hours.

Roth & Faurot's No. 1 Alman, NE NW SE Section 13-19-3w, flowed 566 bbls. in 24 hours from pay at 3,004-06 feet, and was held for potential.

Stanolind Oil & Gas Co. has made location for No. 5 Lovett, SE SW SW Section 13-19-2w, and for No. 6 Lovett, SW SE SW Section 13. W. C. McBride, Inc. has a rig up for No. 3 Griffith, SE cor. SW Section 14-19-2w. Apex Oil Co. has made a location for No. 3 Knudson, NE cor. NW SE Section 23-19-2w. Gypsy Oil Co. has started drilling No. 4 Lovett, NE NW NW Section 24-19-2w. Imo Oil & Gas Co. was rigging up No. 1-A Sadley, NW cor. SW Section 18-19-1w.

Harvey County

In the Hollow Pool, Harvey County, the Shell Petroleum Corp.'s No. 2 Voth, NE cor. NW Section 4-22-3w, was given a potential test and produced 1,440 bbls. in 24 hours from Hunton lime at 3,492-3,502 feet. It had not been acidized.

The Texas Co.'s No. 1 Schroeder, NW SW NE Section 4-22-3w, pumped 107 bbls. of oil and 3 bbls. of water in three hours from the Hunton lime at 3,528-37 feet.

J. E. Mabee, Inc. and Shell Petroleum Corp.'s No. 3 Martens, C NW NE SE Section 19-22-3w, will be drilled deeper from 3,212 feet, and Producers & Refiners Corp. will deepen No. 5 Martens, SW NW SE Section 19-22-3w, present depth 3,408 feet. Sinclair Prairie Oil Co. was moving in material for No. 5 Ediger, SW SE SW Section 19-22-3w. Mid-Kansas Oil & Gas Co. has rig up for No. 3 Klassen, NW NE NW Section 30-22-3w.

In Stafford County, Atlantic Oil Producing Co. has made a location for No. 1 Gates-B, C SW NE Section 27-21-13w, and Magnolia Petroleum Co., a location for No. 1 Tucker, C SE SE NW Section 19-21-13w.

In Barton County, Stanolind Oil & Gas Co.'s No. 2 Gerlof, C NW NW Section 16-20-11w, was spudding.

Gypsy Oil Co.'s No. 1 Christopher, NE cor. Section 6-20-9w, Rice County, swabbed 240 bbls. in eight hours from Silicious lime at 3,229-42 feet and had rig up for No. 2 Christopher, NW NE NE Section 6.

Empire Oil & Refining Co. was rigging up standard tools to drill No. 2 Heckel, NW NE SW Section 18-20-9w.

Gypsy Oil Co. was spudding No. 2 Malone, SE NW Section 18-20-9w. Mid-Kansas Oil & Gas Co. was rigging up standard tools for No. 1 Proffitt, NW cor. SE Section 18-20-9w. Atlantic Oil Producing Co. was moving in material to drill No. 1 Schmidt, C E half NE SE Section 10-19-10w.

In the Chase Townsite Pool Gypsy Oil Co.'s No. 2 Burden, 871 feet from south line and 990 feet from east line of SW Section 31-19-9w, drilled deeper to 3,266 feet and swabbed 27 bbls. per hour.

Terry, Feaster and others had rig up for No. 1 Brunkau, SW cor. SE NW Section 32-19-9w.

Slick, Pryor & Lockhart have rig up for a wildcat test, No. 1 Schmidt, C NW NW Section 15-18-10w, Rice County. Holbart Oil Co. has made a location for No. 1 Boldt, SW NW NW Section 23-18-10w. Slick, Pryor & Lockhart were drilling at 510 feet in No. 2 Orth, SW SE NE Section 27-18-10w. Continental Oil Co. has made location for a wildcat test, No. 1 Lansing, C SE NW Section 25-18-8w.

In Russell County, Billings and others' No. 2 Witt, SW cor. SE Section 4-14-15w, was drilled deeper to 3,080 feet and tested 1 bbl. of oil per hour on the swab. Top of the Oswald lime was at 3,019 feet and the lime had been acidized.

Chautauqua and Cowley Counties

Theta Oil Co.'s No. 1 Webb, 660 feet from south line and 200 feet from west line, SE Section 23-31-10, Chautauqua County, was acidized in sand at 1,330-57 feet and is estimated as a 50-bbl. initial producer.

Croft and Hunt were drilling at 1,870 feet in No. 1 Hull, NE SE Section 26-31-10, being deepened from 1,675 feet.

Lewis Production Co.'s No. 1 Cales, SW NE SE Section 36-31-5, Cowley County, a hole full of water at 2,992 feet, was plugged back to 2,983 feet and shot. It produced 17 bbls. in 18 hours.

Kingman County

In the Cunningham Pool, Kingman County, Skelly Oil Co.'s No. 1 North Ratcliff, CEL SW Section 19-27-10w, was acidized in Lansing lime at 3,450-92 feet and flowed 700 bbls. of oil in 24 hours. It will be given a potential test. Same company's No. 1 D. Rouse, CNL SE Section 20-27-10w, had Lansing lime at 3,525 feet, and some water showing at 3,649-54 feet and was drilling at 3,678 feet. Same company has started drilling No. 3 Ratcliff, 440 feet south and 1,289 feet east of NW cor. Section 30-27-10w.

Woodson and Greenwood

Theta Oil Co.'s No. 4 Estes, SE SW NW Section 7-24-14, Woodson County, is a 25-bbl. pumper at 1,675-1,723 feet.

Matthews and Rex' No. 3, CEL SE SW SE Section 8-24-12, Greenwood County, was drilling at 987 feet.

Wildcat Operations in Kansas

Week Ending December 30
(Descriptions are East unless marked otherwise)

BARTON COUNTY

Company, farm and location—	Remarks:
Atlantic Oil Prod. Co.'s No. 1 Schneider, C NE SW Sec. 16-20-13w	Drlg. 3,471 ft.
Gypsy Oil Co.'s No. 1 Soderstrom, SE NE NW Sec. 21-17-13w	T.D. 2,225 ft.
Danciger et al's No. 1 Roesler, SW NE Sec. 11-18-11w (O.W.D.D.)	T.D. 3,020 ft.
Helmerich & Payne's No. 1 Everleigh, C SW SE Sec. 13-18-13w	T.D. 3,300 ft.; S.D.
Skelton et al's No. 1 Ott, C SE SE Sec. 14-19-14w	Acidized; 2,600 ft. of fluid in hole; S.D.

BUTLER COUNTY

Darby Pet. Co. and Lauck's No. 1 Lauck, SE SW SE Sec. 17-27-3	Drlg. 2,828 ft.

COWLEY COUNTY

Yarnell et al's No. 1-A Speer, SE NE NE Sec. 21-33-4e.	U.R. 6-in. csg.; T.D. 2,210 ft.
Van Meter et al's No. 1 Moore, NE cor. Sec. 5-35-4	Rig.

EDWARDS COUNTY

Atlantic Oil Prod. Co.'s No. 1 Bradbridge, C SE NW Sec. 1-24-16w	Drlg. 4,481 ft.

FINNEY COUNTY

National Ref. Co. et al's No. 1 Smith, C SE SW Sec. 2-23-29w	T.D. 3,333 ft.; rebuilding rig.

HARVEY COUNTY

Hartman et al's No. 1 Jones, C NW SW Sec. 19-25-1w	T.D. 2,940 ft.; set 6-in. csg. at 2,904 ft.

McPHERSON COUNTY

Dister et al's No. 1 Carlson, SE cor. Sec. 4-19-3w	S.D. 3,400 ft.
Jim MacIson's No. 1 Boesker, SE NW Sec. 29-20-1w	Spudded.
Harris & Haun's No. 1 Rupp, SW cor. Sec. 12-21-2w	Drlg. 2,085 ft.
Wakefield & Hawkins' No. 1 Smith, SW SE Sec. 17-17-1w.	Rig on ground.

PHILLIPS COUNTY

Ashby et al's No. 1 Donaldson, C NE NE Sec. 25-5-18w (O.W.D.D.)	C.O. 630 ft.

RENO COUNTY

Roth & Faurot's No. 1 Yoder, C NW NW Sec. 15-24-5w.	Set 6-in. pipe at 3,433 ft.; R.U.

RICE COUNTY

Slick, Pryor & Lockhart's No. 1 Schmidt, C NW NW Sec. 15-18-10w	Rig.
El Dorado Ref. Co.'s No. 1 Wernet, SW NE Sec. 12-20-6w	Drlg. 2,800 ft.
Elmer Corn et al's No. 1 Hunter, NE cor. Sec. 35-19-7w.	Rig on ground.
Lario O. & G. Co. and Elwell's No. 1 Russell, NE SW Sec. 29-23-7w	T.D. 2,410 ft.; fishing.
Verne Simmons et al's No. 1 Hunter, NE cor. Sec. 35-19-7w	Rigging up.
Langston et al's No. 1 Markle, NE SW Sec. 1-20-9w	T.D. 1,057 ft.

RUSSELL COUNTY

Western Exploration Co.'s No. 1 Andrea, SW cor. Sec. 30-15-12w	T.D. 1,957 ft.; fishing.
Tom Palmer's No. 1 Steinle, NW SW Sec. 22-13-14w	U.R. 12-in. pipe to 870 ft.

SALINE COUNTY

Lario O. & G. Co.'s No. 1 Burrell, NW SW Sec. 15-14-2w.	Drlg. 3,356 ft.

SEDGWICK COUNTY

Cameron et al's No. 1-A Funk, SW SE NW Sec. 6-26-3e.	Set 12-in. csg. at 910 ft.
Wentz et al's No. 1 Stockamr, SW NE Sec. 31-26-2w.	T.D. 3,131 ft.; fishing.

STAFFORD COUNTY

Atlantic Oil Prod. Co.'s No. 1 Willinger, C NE NE Sec. 18-22-11w	Drlg. 2,970 ft.
Vickers Pet. Co. and Phillips Pet. Co.'s No. 1 Cravens, SW NE Sec. 15-25-11w	Drlg. 350 ft.

SUMNER COUNTY

Wentz and Continental Oil Co.'s No. 1 Kerns, SE cor. NE Sec. 6-34-1w	Location.

WOODSON COUNTY

Lewis Bros.' No. 1 Riggs, SW cor. Sec. 10-26-14	Set pipe at 765 ft.; S.D.

U. S. to Invite World to Tulsa Oil Exposition

Official recognition by the U. S. Government of the "World's Fair of the Oil Industry" or International Petroleum Exposition and Congress to be held in Tulsa, May 12 to 19, will be sought when Congress convenes, according to William B. Way, general manager of the exposition. "Such endorsement has been given the last three shows and is responsible to a large degree, in obtaining delegations and exhibits from 20 foreign nations in 1930 when the last exposition was held," he said.

"Congressman Wesley E. Disney of Oklahoma will introduce a bill with the support of Senators Elmer Thomas and T. P. Gore of Oklahoma which would authorize the department of state officially to invite foreign nations to participate in the exposition.

"The recognition of Russia, a large oil consumer, by the United States will probably be a great impetus to foreign attendance. The Venezuelan government has already wired the exposition office that it expects to again be represented at the oil show. No formal announcements of the exposition dates has yet been sent to foreign nations.

"To date the exposition has received the endorsement of the Independent Petroleum Association of America, Western Petroleum Refiners Association, Natural Gasoline Manufacturers Association, American Association of Petroleum Geologists, and Mid-Continent Oil and Gas Association."

Oklahoma Closed Old Year With Big Decline in Production; Look for Busy Year in Field

By JAMES McINTYRE

The new year opened in Oklahoma with the question in the minds of many as to where refiners are going to meet their crude oil requirements in the State throughout 1934. Oklahoma City is fading steadily; the Seminole area has been on the toboggan for a long time and has almost arrived at the settled production stage on most of the hundreds of leases scattered over the big area. The discoveries of 1933 are not expected to develop enough production to take the place of the diminishing supply. The only answer is a big general drilling campaign in the old fields and an increase in wildcatting.

The most interesting wildcat area at this time is Logan County. The big companies operating in Oklahoma are "playing" that county and have recently freely invested in leases in Townships 18-3w, 18-4w, 16-1w, 16-2w, 16-3w, 17-3w, 17-4w, 19-3w, 17-1e and 15-3w. Operators are hoping that the Continental Oil Co.'s test in Dewey County will be carried down to the drilling limit if oil or gas pays are not encountered in the course of the operation and that the Gypsy Oil Co.'s test in Jackson County and the Phillips Petroleum Co.'s test in Beckham County will be successful, but in the event of their not being, that they will be made thorough tests of the underlying formations. Thus far the Phillips Petroleum Co.'s Beckham County test is the only one of the three that has reached real depths. It was last reported running 9-inch casing at a total depth of 5,551 feet. It is in granite wash. This well got the top of the Big Lime at 2,020 feet; dolomite at 2,695 feet and granite wash at 3,640 feet. It was started as a 6,000-foot test, but may go deeper.

Production by Pools

Estimated daily average production in Oklahoma in the week ending December 30 and in the preceding week was as follows:

Field or pool—	Dec. 30	Dec. 23
Allen	7,925	8,550
Bristow-Slick	10,500	11,000
Cushing-Shamrock	12,500	13,100
Healdton	9,500	9,500
Hewitt	5,000	5,000
Burbank	9,250	9,250
Balance of Osage	20,350	18,800
Lucien	4,500	6,500
Bowlegs	8,940	10,315
Carr City	4,885	5,625
Earlsboro	8,535	8,165
East Earlsboro	11,605	11,250
South Earlsboro	1,295	1,090
Little River	12,485	15,740
East Little River	785	765
Seminole	8,825	10,360
East Seminole	1,245	1,260
Searight	2,310	2,035
Maud	1,440	1,490
Mission	3,870	4,240
St. Louis-Pearson	14,140	22,180
Cromwell	4,700	4,709
Oklahoma City	111,610	204,640
Tatums-Tussey	7,500	7,730
Sholem-Alechem	4,900	4,800
Duncan district	5,000	4,500
Tonkawa-Garner-Thomas	6,500	6,590
Holdenville-Fish	6,960	6,750
Wewoka	4,400	4,200
Other fields	83,995	85,735
Total	395,450	505,770

While it is believed Oklahoma overproduced in December the week ending December 30 saw production fall off to 395,450 bbls. per day. Oklahoma City dropped to 111,610 bbls. and the Seminole-St. Louis Field declined to 80,360 bbls. per day. The figures represent a total decline from the production of the week before of 110,320 bbls. per day in the State; 93,030 bbls. in the Oklahoma City Field and 14,155 bbls. in the Seminole-St. Louis Field.

The holidays contributed largely to the let down of completed and new work, and January should see a considerable increase in both.

Completions in Osage County were unimportant and few. Kasishke and Lewis Production Co.'s No. 5, SE NE NE Section 16-24-7, was shot in Bartlesville sand at 2,510-27 feet and flowed 100 bbls. of oil and a little water in 24 hours and was being cleaned out. Producers & Refiners Corp. and Peters Petroleum Corp. completed No. 5, CSL SW NE NE Section 24-24-7, a 20-bbl. well at 709-29 feet and the same company abandoned No. 1, SW NW NW Section 19-24-8, at 1,055 feet.

Sinclair Prairie Oil Co. and Mead Oil Co.'s No. 2, SW NW NE Section 22-24-8, swabbed 50 bbls. in 24 hours from sand at 2,321-57 feet, which had been shot. It was completed.

Lewis Production Co. completed No. 2-B NE NW Section 21-24-7, which came in three weeks or so ago and on one day made 2,400 bbls., and completed No. 1, SW cor. Section 10-24-7, which swabbed and flowed 278 bbls. in 24 hours. Producers & Refiners Corp.'s No. 3 NW cor. Section 15-24-7, was completed. It made 424 bbls. in 24 hours, after a shot. Kashiske and Lewis Production Co. completed No. 3, SW SE NE Section 16-24-7, a 400-bbl. initial producer, after a shot. These wells have been mentioned in detail in previous reports.

Greater Seminole

In the Greater Seminole Field, Carter Oil Co. and others' No. 1 Timmy, C N half NE NE Section 2-10-6, Seminole County, was treated with 1,000 gallons of acid, and flowed 410 bbls. in 24 hours. It will be reacidized.

Commercial Drilling Co.'s No. 1 Rentie, C NW SE SE Section 8-9-6, was dry in second Wilcox sand at 4,291-4,401 feet and was shut down for orders.

South St. Louis Field

Hilton Phillips' No. 1 Cherry, NE cor. SW Section 21-7-4, flowed 185 bbls. in 24 hours at a total depth of 3,840 feet.

Amerada Petroleum Corp.'s No. 3 Harrison, SW cor. Section 33-7-4, was completed. It swabbed 178 bbls. of oil in nine hours and was then acidized and later pumped 159 bbls. in 14 hours. The same company's No. 4 Harrison, SW NW Section 33, was completed. It swabbed 554 bbls. No. 5 Harrison swabbed 600 bbls. of oil and 1,030 bbls. of water and was completed.

Helmerich & Payne completed No. 1 Billington, SE cor. SW Section 31-7-4. It was acidized and made 300 bbls. of oil and 300 bbls. of water from dolomite topped at 4,080 feet.

Mid-Continent Petroleum Corp.'s No. 1 Bruno, SW SE SE Section 31-7-5, swabbed 180 bbls. of oil from dolomite topped at 4,046 feet and was completed.

Wells and others will deepen No. 1 Stephenson, NW NE SE Section 14-10-11, now at 1,999 feet. J. A. Ligon, trustee, has cellar dug for No. 1 Kiker, Block 14, 143, SW cor. SE Section 19-8-8, Wewoka; Magnolia Petroleum Co. has made location for No. 3 Walker, SW cor. NE Section 21-7-4. Locations for Searight's No. 1 Fundis in Section 8-6-3 and No. 1 Lewis in Section 28-6-3, Pottawatomie County, have been abandoned. Gilcrease Oil & Gas Co.'s No. 1-A Harbert, SW SE NE Section 7-5-8, was drilling at 1,100 feet. J. B. Hill's No. 1-A Perkins, C W half SW SW Section 7-5-9, Hughes County, was drilling at 500 feet.

Grady County

Carter Oil Co. has location made for No. 4 Mar-Horton, SW NW SE Section 8-3-5w, Grady County.

Fuller and others have made location for No. 1-A Ta-Ha-Vah, NE cor. SE Section 30-2n-9w, Stephens County.

H. L. Wirrick's No. 1 fee, SE cor. SW Section 29-2n-7e, Pontotoc County, which had been shut in last September, was opened up and flowed 341 bbls. in 22 hours with 15,000,000 feet of gas. W. A. Delaney was drilling at 475 feet in No. 1 Dawes-Harden, SE cor. NW Section 30-2n-7e.

Tulsa and Wagoner Counties

The Bixby district in Tulsa County, where two good wells were recently completed in Township 17-14, now has nine operations started in Sections 5, 6, 8, 11 and 36. The latest reports show H. W. Bowder and others' No. 3 Hodge, SW SE SE SW Section 5-17-14, spudding; and the same operators' No. 1 Perryman west 20 acres, NE NW NE SW Section 5, a machine in; and H. W. Bowder's No. 2 Perryman, east 20 acres, SW SE NE SW Section 5, rigging up.

L. B. Jackson penetrated a dry sand at 1,492-1,540 feet in No. 1 Perryman, SE SW SW Section 5-17-14, while the Rachael Oil Co. has a showing of gas in Burgess sand at 1,495-93 feet in No. 1 Kernal, NW SE NW Section 8-17-14.

No completions were reported from either Tulsa or Wagoner in the course of the week.

Okmulgee and Muskogee Counties

In Okmulgee County Slater Brothers drilled a failure in No. 6 Jefferson, NW SE NE Section 19-15-12, Glenn sand, at 1,648-94 feet and was dry.

Bingham Brothers completed a 25-bbl. well in No. 5 Bosen, CEL NE NE Section 36-14-12, in Dutcher sand at 1,943-63 feet.

Gled Oil Co. has rig up and tools in for No. 1-A Hopping-Kennedy, SW NE Section 22-13-14. Penrod and others were drilling at 1,410 feet in No. 1-A Fox, SE cor. NW Section 22-13-14.

Oklahoma County

Day & Hodges' No. 1 Dodd, SW SE SW SE Section 22-11-3w, flowed 2,147 bbls. in four hours and 20 minutes with gas at the rate of 8,500,000 feet per day from Wilcox sand at 6,504-6,597 feet.

Indian Territory Illuminating Oil Co.'s No. 2 Wisel, 990 feet from south line and 1,120 feet from west line of SE Section 26-11-3w, got Wilcox sand at 6,499 feet, total depth 6,601 feet. It flowed 643 bbls. in one hour and 45 minutes with gas at the rate of 8,300,000 feet.

Nebo Oil Co.'s No. 2 Little and others, 174 feet from the north line and 992 feet from the west line, NE Section 27-11-3w, flowed 3,170 bbls. in 17 hours and five minutes with gas at the rate of 5,000,000 feet per day from Wilcox sand at 6,526-6,602 feet. Stahl and others' No. 1 Odelbache, 75 feet from north line and 510 feet from west line, NE Section 27-11-3w, flowed 100 bbls. in one hour and 906 bbls. in 11½ hours with 4,300,000 feet of gas.

The Springrose Drilling Co.'s No. 1 Edwards, C SE SE Section 19-11-1e, has not been able to drill past the lost bit and the hole has been plugged back and the crew was waiting for cement to set.

Skelly Oil Co. and others were drilling at 45 feet in No. 1 Empire, 445 feet south and 1,201 feet east of NW cor. Section 3-11-3w.

Kay and Noble Counties

Dave Morgan's wildcat test in Kay County, No. 1 Cooper, NW cor. NE NE Section 25-28-4, found Wilcox sand at 3,485-3,518 feet, but the hole filled with water and was abandoned. This test had Oswego lime at 2,680 feet, Mississippi lime at 3,171 feet and Tyner sand at 3,365 feet. It was the only well drilling in the county.

Stanolind Oil & Gas Co. was drilling at 150 feet in No. 1 Van, SW NE Section 29-21-1w, Noble County.

In the Lucien Pool

Shell Petroleum Corp. completed No. 1 Magney, C SW SW Section 17-20-2w, Lucien Pool, Noble County, which made a potential flow of 2,581 bbls. in 12

Gulf Port Shipments During November Are Slightly Less Than in October

HOUSTON, Tex., Jan. 2.—The water shipments of crude oil and refined products from Gulf Coast terminals and ports during November show little change from the previous month, the total being 99,938 bbls. less shipped out in November compared to October. The shipments of export crude oil shows the largest change with a total of 471,921 bbls. more in November compared to October shipments.

The total amounts of both crude oil and refined products shipped during November was 26,996,321 bbls. The following table shows the shipments by companies and terminals:

WATER SHIPMENTS FROM GULF COAST FOR NOVEMBER

	Crude		Refined		
Company, terminal—	Coastwise	Export	Coastwise	Export	Total
Atlantic, Atreco	1,425,011.21	320,558.28	.....	.....	1,745,569.49
Atlantic, Harbor Isl.	296,984.82	.....	.....	.....	296,984.82
Atlantic, Texas City	232,580.91	.....	2,054.17	.....	234,635.08
Gulf, Port Arthur	328,855.02	.....	1,550,616.02	32,719.62	1,912,190.66
Humble, Baytown	739,649.00	.....	1,834,463.58	580,764.67	3,154,877.25
Humble, Harbor Isl.	1,594,964.00	.....	.....	.....	1,594,964.00
Humble, Ingleside	67,428.00	.....	.....	.....	67,428.00
Humble, Texas City	301,856.00	.....	.....	.....	301,856.00
Magnolia, Beaumont	96,421.03	.....	2,013,908.13	.....	2,110,329.16
Pure Oil, Smith Bluff	495,677.00	.....	566,584.00	.....	1,062,261.00
Shell Pet., Houston	254,236.70	177,398.33	1,323,422.86	.....	1,755,057.89
Shell Pet., Norco	.....	.....	276,092.10	165,757.74	441,849.84
Standard La., Bn. Rouge	296,148.00	.....	724,393.00	411,315.00	1,431,856.00
Sun Oil Co., Sabine Pass	1,603,995.59	.....	.....	.....	1,603,995.59
Texas Co., Port Arthur	1,069,432.00	995,768.00	2,624,674.00	873,046.00	5,562,920.00
Misc., Houston	2,401,234.00	231,434.00	912,228.00	174,651.00	3,719,547.00
Total Nov.	11,204,473.28	1,725,158.61	11,828,435.86	2,238,254.03	26,996,321.78
Total Oct.	11,466,926.15	1,253,237.01	12,168,373.99	2,207,723.00	27,096,260.15
Difference	262,452.87	471,921.60	339,938.13	30,531.03	99,938.37

hours, after having been deepened to 5,274 feet.

Lucien Consolidated's No. 1 Moelling, C SW SE Section 17-20-2w, which flowed 765 bbls. from the first Wilcox sand, drilled into second Wilcox at 5,210-30 feet and got a small showing of water. It was plugged back to 5,182 feet. Same operators' No. 2 Wolfe, C NW NW Section 17-20-2w, had a small showing of water at 5,270 feet. This well has been shot and acidized but has not yet shown signs of being much of a producer. It is a north offset to the discovery well.

Shell Petroleum Corp.'s No. 1 Hay, C SW SW Section 21-20-2w, was shut down for tankage after drilling into the first Wilcox sand at 5,078-87 feet. The hole filled 1,100 feet with oil, with 250,000 feet of gas. It was drilled to 5,103 feet.

Magnolia Petroleum Co. was moving in material to start No. 1 O. T. Long, C SW SE Section 20-20-2w, and has made a location for No. 1 Kolb, C NW NW Section 33-20-2w.

Crescent Pool

Sinclair Prairie Oil Co.'s No. 1 Short, C SW SW NE Section 27-17-4w, Crescent area, Logan County, got second Wilcox sand at 6,568-89 feet, and opened up salt water. It was being plugged back to Layton sand in which a showing of oil and gas was found at 4,921-71 feet. This well is east of the producing streak that runs north and south through the field. The same company's No. 1 Phillips, C NE NE NW Section 28-17-4w, may be drilled deeper. It cored second Wilcox sand at 6,574-81 feet and flowed as much as 500 bbls. in 24 hours. Same company's No. 1 Shaffer which was plugged back from 6,646 feet to 6,480 feet where it had a 23,000,000-foot gas production had not yet been completed.

Mid-Continent Petroleum Corp.'s No. 1 Campbell, which had not yet been thoroughly cleaned out after the bridge was drilled out, was not yet completed. It staged several flows the latest reported having been a 400-bbl. production in three hours after a 12-hour shut-in period.

The Texas Co. completed No. 1 Denney, C NE SE Section 33-17-4w. It flowed 4,372 bbls. in 24 hours from second Wilcox sand at 6,039-61 feet.

Carter Oil and Gypsy Oil Co.'s No. 1 Herron, C SE NE Section 28-17-4w, was spudded. Amerada Petroleum Corp. was moving in at No. 1 Denney, C SE SE Section 33-17-4w. Eason Oil Co. had cellar dug for No. 2 Katscher, C NW SW Section 34-17-4w.

Over near Langston Amerada Petroleum Corp. and Stanolind Oil & Gas Co. had tools moved in at No. 1 Fouts, NW cor. NE Section 14-17-4w.

The Gypsy Oil Co. and Carter Oil Co. were preparing to test Layton sand at 4,885-4,925 feet in No. 1 Knowles, C NW NW Section 34-17-4w.

Creek County

Big 4 Petroleum Co.'s No. 2 McNac, NE SE SE Section 34-19-8, Creek County, is a 35-bbl. completion in Red Fork sand at 2,631-50 feet.

Wood Oil Co.'s No. 1 Pitts, NE cor. SW Section 3-18-8, was completed. It made 30 bbls. initially, after a shot at 2,572-97 feet.

J. A. Hull's No. 1 Deer, SE SW SW Section 22-18-8, was shot in sand at 2,628-72 feet and swabbed 50 bbls. while cleaning out.

In the Layton sand area of the Olive Pool Gled Oil Co.'s No. 4 Escoe, SE SW SE Section 27-18-8, swabbed and flowed 100 bbls. in 24 hours, following a shot at 1,299-1,324 feet.

Magnolia Petroleum Co.'s No. 5 Derrisaw, CSL NW SW Section 6-17-7, Cushing-Shamrock Field, drilled deeper to Peru sand at 2,415-46 feet and was shot with 40 quarts. The hole filled 2,000 feet with oil.

Curtis Oil Co.'s No. 1 Simms, SE NE SE Section 6-17-10, Kellyville area, is a 6,000,000-foot gasser at 2,138-48 feet, Red Fork sand.

Bingham Brothers' No. 2 Thompson, SE NE NW Section 36-17-11, was shot in Dutcher sand at 2,091-2,209 feet and it made 70 obls. in 24 hours. It was completed.

New work in Creek County included the following operations: J. O. Shaffer's No. 1 Fisher, SE SW NW Section 31-18-8, machine in; F. O. Akin's No. 1 Scruggs, SE SW NE Section 32-18-8, rigging up; F. O. Akin's No. 12 Wilson, SE cor. NE Section 34-18-8, location; Jones & Doss' No. 8 Tiger, C NW NE Section 34-18-8, spudded; Sinclair Prairie Oil Co.'s No. 41 Litchfield, C NE NE Section 21-17-7, drilling at 648 feet; C. D. Klinginsmith's No. 1 Watson, SE SW SE Section 33-16-11, rigging up.

Southern Fields

Southern Oil Co.'s No. 1 Seay, NW SW NW NE Section 3-7s-5w, Jefferson County, was abandoned as dry at 1,558 feet. It showed a little oil and a large quantity of water in sand at 1,545-58 feet.

In Major County, Centrop Oil Co. has an estimated 15-bbl. well in No. 3 Little, NW NE NE SW Section 25-7s-5e, in sand at 476-80 feet.

Gillette Brothers' No. 1-A Cooley, NW SE NW Section 17-2s8w, Stephens County, had only a showing of oil and gas in sand at 2,217-20 feet and was abandoned.

George Pace and others drilled deeper in No. 2 Bristow, SE NE NE Section 29-2s-7w, Stephens County, but got a hole full of water at 1,743-49 feet and abandoned the operation.

R. G. Poland and others abandoned No. 1 Green, C NE NW NW Section 8-1s-4w, Stephens County, at 3,506 feet. No oil or gas showings were reported at any depth.

Magnolia Petroleum Co.'s No. 1 Burton, NW cor. Section 31-1s-2w, Carter County, was acidized from 2,629 to 2,654 feet, but with no results and the test was abandoned.

Machine was in for Schermerhorn-Ardmore's No. 3 Smith, SE SW SW Section 4-4-3w, Carter County, an old well to be drilled deeper. W. H. Smith has rig up for No. 1 Carter, NE NW SW Section 13-1s-3w, Carter County.

Wildcat Operations in Oklahoma

Week Ending December 30

Northern Oklahoma

ALFALFA COUNTY

Company, farm and location—	Remarks:
Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w	T.D. 6,255 ft.; C.O.

BECKHAM COUNTY

West Oak Gas Co. et al's No. 1 Powell, NW SW Sec. 11-9-25w	Drlg. 1,803 ft.

CADDO COUNTY

Denver Prod. & Ref. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w	T.D. 9,540 ft.; moving in tools.

CARTER COUNTY

Kilgore et al's No. 1 Williams, SE NW SW Sec. 20-1n-3w.	Slush pits dug.

COMANCHE COUNTY

Stores et al's No. 1 Crutcher, C NE Sec. 11-1n-12w	Set 10-in. pipe 18 ft.

GARFIELD COUNTY

J. H. Lewis' No. Clark, C NW NW Sec. 34-21-6w	T.D. 6,397 ft.; S.D.

GARVIN COUNTY

National Prod. Co.'s No. 1 Littrell, NE cor. Sec. 31-2n-3w.	Drlg. 299 ft.

DEWEY COUNTY

Continental Oil Co.'s No. 1 Bessemer, C SW NE Sec. 8-19-20w (4,000-ft. test)	10-in. csg. 1,085 ft.; S.D.

HUGHES COUNTY

Birk-Kan.'s No. 1 Gardner, NE NW Sec. 22-6-9	Spudded and S.D.
Scruggs et al's No. 1 Black, NE Sec. 13-9-10	T.D. 2,660 ft.; U.R. 8-in. csg.

KAY COUNTY

Morgan et al's No. 1 Bush, NW NE NE Sec. 25-28-4	Dry and abd. 3,518 ft.
Burton Lewright et al's No. 1 Leseman, SW NE SE Sec. 4-28-2	Rig.

KIOWA COUNTY

Christian's No. 1 James, NE NW Sec. 8-7-18w	T.D. 1,904 ft.; repairing rig.
Erickson et al's No. 1 Heatherton, NW SW Sec. 14-6-16w.	Drlg. 190 ft.

LINCOLN COUNTY

Amerada Pet. and Stanolind O. & G. Co.'s No. 1 Martinek, NW SE Sec. 35-13-5e	P.B. to 3,915 ft.; to drill new hole.
Huckleberry et al's No. 1 Boland, SW cor. Sec. 25-12-3e.	Cored 4,528-37 ft. in shale.

LOGAN COUNTY

Amerada and Stanolind's No. 1 Fouts, NW NE Sec. 14-17-1w	Tools in.
Barnsdall Oil Co. et al's No. 1 Seyler, NE SE Sec. 12-15-4w	Drlg. 3,070 ft.
Jadeka Dev. Co.'s No. 1 Frakes, C SW NE SW Sec. 16-16-6w	S.D. for fuel 2,010 ft.

MURRAY COUNTY

A. E. Harden's No. 1 Sadler, NE Sec. 19-1-2	Rig.
T. E. Revells et al's No. 1 Wolfe, NE cor. Sec. 18-1-2.	Running 8-in. pipe; T.D. 1,500 ft.

MUSKOGEE COUNTY

J. S. Routt et al's No. 1 Escoe, CWL SE NE Sec. 17-13-17.	T.D. 1,200 ft.; S.D. for 10-in. csg.

OKLAHOMA COUNTY

Springrose Drlg. Co.'s No. 1 Edwards, C SE SE Sec. 19-11-1	P.B. to drill new hole.

PAYNE COUNTY

L. G. Hulse's No. 1 Sloan, SW NW SE Sec. 19-17-3	Sand 1,226-41 ft.
Mid-Continent Pet. Corp.'s No. 1 Swank, SE NE NE Sec. 19-19-2	Drlg. 4,509 ft.

PITTSBURG COUNTY

Moffett & Hall's No. 1 Jones, C NE NW Sec. 14-8-14	Lost tools; T.D. 3,200 ft.; S.D.

PONTOTOC COUNTY

Galbreath's No. 1 Stafford, NE SE SE Sec. 31-2-6	T.D. 1,380 ft.; S.D.
W. E. McGraw's No. 1 Mayhue, NE Sec. 19-2-6	Drlg. 1,841 ft.
Stanolind-Amerada's No. 1 Aldridge, C N½ S½ SE Sec. 2-5-7	Drlg. 3,850 ft.
Delaney et al's No. 1 Dawes-Hardin, SE NW Sec. 30-2-7	Drlg. 300 ft.
Williams' No. 1 Kroth, NE SE Sec. 33-3-4	H.F.W. 1,977 ft.
Wirrick's No. 1 fee, SE SW Sec. 29-2-7	Flowed 341 bbls. and 15,000,000 ft. of gas in 24 hrs.

POTTAWATOMIE COUNTY

Atlantic Oil Prod. Co.'s No. 1 School land, C NE NW NW Sec. 36-10-4	T.D. 4,514 ft.; 2,000 ft. wtr in hole.
Payne Drlg. Co.'s No. 1 Lovelace, NW SW NW Sec. 27-6-4.	T.D. 3,780 ft.; csg. collapsed.
Texas Co.'s No. 1 Terfertiller, NW NE Sec. 4-8-3	Drlg. 3,415 ft.

SEMINOLE COUNTY

John Burns' No. 1-B Shepard, SE NE Sec. 4-8-4 (O. W.D.D.)	T.D. 1,658 ft.; S.D.
Amerada Pet. Corp.'s No. 1 Parsons, 330 ft. N of S line of Lot 7, Sec. 12-11-6	Drlg. 3,173 ft.
Flemlee et al's No. 1 Bowlegs, SE NE SW Sec. 1-7-7	Drlg. 1,260 ft.

WASHITA COUNTY

McWhirter & Bost's No. 1 Hall, SW SE SE Sec. 28-8-19w.	T.D. 2,155 ft.; lost sand pump.

Southern Oklahoma

ATOKA COUNTY

J. D. Boukan's No. 1 Howard, NW SW NW Sec. 20-2s-10e	Drlg. 1,066 ft.
Brookshire et al's No. 1 Rowland, NW NE NE Sec. 18-3s-10e	Drlg. 3,443 ft.

JACKSON COUNTY

Gypsy Oil Co.'s No. 1 Kelly, NE Sec. 10-1n-20w	Drlg. 1,970 ft.

MURRAY COUNTY

F. E. Revells' No. 1 Wolfe, NE cor. Sec. 18-1n-2e	Drlg. 1,995 ft.

PUSHMATAHA COUNTY

J. V. Scrivener et al's No. 1 Swink, C NE SE Sec. 29-6s-20e	S.D. 410 ft.
Whitehead et al's No. 1 Messer, SE SW SW Sec. 35-3s-15e.	T.D. 2,405 ft.; S.D.

STEPHENS COUNTY

J. W. Madison's No. 1 Tussey, SW SE NW Sec. 24-1n-4w	Drlg. 2,975 ft.
Gillette Bros.' No. 1-A Cooley, NW SE NW Sec. 17-2s-3w	Dry and abd. 2,500 ft.
Lloyd Oil Co.'s No. 1 McKimmons, SW cor. Sec. 15-1n-4w	Drlg. 3,519 ft.
R. G. Poland et al's No. 1 Green, C NE NW NW Sec. 8-1s-4w	Dry and abd. 3,506 ft.

TILLMAN COUNTY

J. H. Everett's No. 1 Crane, SW cor. Sec. 15-3s-14w	Rig.

E. M. Smith Now in Active Control of Emsco Company

Of interest to the petroleum and allied industries is the announcement that E. M. Smith has been made president and general manager of the Emsco Derrick & Equipment Co., assuming active charge of the general office in Los Angeles, Calif., and of the company's branch manufacturing plants in Houston and Dallas, Tex. A statement from Mr. Smith is to the effect that changes in personnel and policy will follow. He said:

E. M. SMITH

"A personal survey of conditions throughout the petroleum industry, as well as among our various industrial holdings on the Pacific Coast and in the Mid-Continent, disclosed the desirability of certain changes in the setup of the Emsco Derrick & Equipment Co. Many changes in the personnel of the organization and also in the policies of the company, which will affect our development, will be accomplished as rapidly as possible.

"The new regime presages a new era for our company, and even greater achievements in the future than in the past. We look forward confidently to better conditions generally, and in the petroleum industry particularly, during 1934, and will pursue a policy of vigorous development and activity."

"E. M.," as Mr. Smith is familiarly known throughout the oil fields of the world, organized the Emsco Steel Products Co. which began operations in January, 1923.

In 1924 he organized the Emsco Tool Co., a subsidiary of the Emsco Steel Products Co., for the purpose of producing an additional line of drilling equipment such as rotary machines, draw works, gas engines, reduction gears, etc. In January, 1926, he merged these companies into the Emsco Derrick & Equipment Co., a $3,000,000 organization with a complete line of all-steel drilling and production equipment.

During the same year the first step in the expansion of the new company was taken by the erection of a branch manufacturing plant in Houston to supply the company's products to the Mid-Continent, Gulf Coast, Central and South American oil fields.

In 1927 Emsco increased its capitalization and acquired the D. & B. Pump & Supply Co., having its headquarters and main plant in Los Angeles, and a branch manufacturing unit in Dallas. This move rounded out a line of drilling, production and pumping equipment sufficient to rig up an oil well from the crown to the bottom of the hole.

California Starts Year With Lowered Production of Crude and Better Prices for Products

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Jan. 2.—Crude oil production in California registered a substantial decline last week and the new year starts with a daily production somewhat lower than the 471,000 bbls. produced on January 1, 1933. State production has shown a downward trend for the last three weeks, and while there may be a temporary upswing early in January, due to the policy of some operators producing their allotment early in the month, all indications point to a lower production later.

At the close of December Huntington Beach was practically the only field showing a sustained overproduction. Several other fields showed minor overages due to the completion of new wells, but in practically every instance the amounts were negligible. Santa Fe Springs and Long Beach, for the first time since March, 1933, were producing below their allotments. Several companies were still overproducing in the Huntington Beach town lot area at the close of 1933, but representatives of Secretary Ickes are expected to bring these operators into line in the immediate future or institute injunction proceedings in the U. S. District Court.

In addition to starting off the new year with a lower crude oil production, California marketers will welcome 1934 under rather auspicious circumstances due to a general upward revision in refined oil prices on December 27, 1933. The improvement registered in refined oil quotations is due primarily to more effective curtailment of production and the removal of excess crude oil and gasoline by increased purchases on the part of major operators.

In Southern California territory retail prices of gasoline were stepped up 2 cents per gallon simultaneously with revisions in other marketing centers of the Pacific Coast. San Francisco prices are one-half cent above those prevailing in Los Angeles.

The marketing cartel covering prices and gallonage is nearing adoption and although several companies have signed the agreement with stipulations, this proposed merchandising program may become a factor of importance early in the new year. Marketers are in general accord in the belief that conditions on the Pacific Coast will show a decided improvement during 1934 if the crude oil curtailment program can be made effective and the irreconcilable group prevented from dumping excess production of crude oil on an extremely sensitive market.

Huntington Beach

State Director of Finance Rolland Vandegrift and Attorney Webb Shadle of the State Division of Lands, filed a new complaint in the Huntington Beach whipstock controversy in which they allege that Charles W. Camp and others are drilling a well for the specific purpose of tapping state tidelands. The well in question has not yet been completed, but state officials petitioned the court for $50,000 damages for asserted trespass and an injunction to prevent production of oil and gas and an order permanently sealing the well.

Defendants in the new case in addition to Camp are the City of Huntington Beach, the Huntington Beach Co., Pacific Electric Land Co., Pacific Electric Railway Co. and the Standard Oil Co., through whose lands the well was drilled before reaching the state tidelands. In addition to this group, H. J. Eastman, Ltd., H. J. Eastman, O. H. Johnson, Al Craig, Vernon King and Grace Laughlin are named as defendants. State officials have been endeavoring to effect a compromise with operators producing oil and gas from beneath state tidelands and hope to adjudicate the situation early in the new year.

Drilling operations in the Huntington Beach Field have shown a declining tendency during the past 30 days and if state officials are successful in their attempt to prevent additional development, drilling in this field will become negligible within the next several weeks. The state takes the position that unrestricted development of the tidelands will ultimately result in serious losses due both to overdevelopment and the probability that drilling wells may drill through the protective casing of producing wells and thus permit possible flooding of the productive formation.

Only two new wells were chalked up in the Huntington Beach town lot area during the last week, although a check of development under way indicates the probable completion of several additional wells during the course of the next few weeks. The latest completion in the town lot area was the Reading Oil Corp.'s No. 1 Anderson, which was brought in flowing 610 bbls. at 4,740 feet. No. 1 Humphries of the Western States Drilling Co. was finished as a belated Christmas present flowing 2,978 bbls. of oil and 1,600,000 feet of natural gas per day at 4,906 feet. Standard Oil Co. has shut in five wells in the town lot area due probably to the possibility that they may have deviated somewhat from the vertical and thus approached the edge of the tideland area. These wells are Nos. 66 and 67 on Lease B and Nos. 17, 18 and 19 on the Pacific Electric property. P. W. Willett failed to get commercial production upon completion of No. 2 Huntington during the early part of the current week, as this new well was brought in flowing 1,000,000 feet of natural gas per day from 4,600 feet but failed to come up to expectations as far as crude oil production is concerned. The Wilshire Oil Co. has shut in four wells in the town lot area and has beaned down all of its other wells in order to reduce its production to the prescribed allowable.

Kettleman Hills

North Kettleman Oil & Gas Co. has made exceptionally good progress in its redrilling job on No. 1 Lillis-Welsh, a deep test located in the extreme western part of the Kettleman North Dome Field, and unless something unforeseen develops, should be in a position to make a production test some time before the close of February. The crew in this well is redrilling at 10,251 feet and is at present making exceptionally fast footage. No. 1 Lillis-Welsh ran into mechanical trouble several months ago at 10,944 feet due to a premature explosion and the company was obliged to back up and begin making new hole. After being idle for several months, the Union Oil Co. provided finances to permit a resumption of drilling and in consideration received a 50 per cent undivided interest in the Lillis-Welsh lease. This outpost showed promise just previous to the development of mechanical trouble, justifying the additional expenditure necessary to carry it on down into the pay.

The Kettleman North Dome Association finished two exceptionally good wells in the North Dome during the latter part of December and will probably list two additional completions before the close of January. Kenda's two new completions in the North Dome were Nos. 38-34-J and 2-28-J. The former, bottomed at 8,819 feet but plugged back to 8,560 feet, was brought in flowing 2,316 bbls. of oil and 29,960,000 feet of natural gas per day, while the latter was brought in flowing 4,840 bbls. of oil and 2,797,000 feet of natural gas per day at 8,477 feet after the hole had been plugged back from 8,557 feet. No. 38-34-J was finished with 624 feet of 4¾-inch liner landed at 8,560 feet and cemented through perforations at 7,910 feet. The Standard Oil Co. got only a small initial daily production of crude oil upon the completion of well No. 87-3-P, although this new producer showed a rather high gas oil ratio. The Standard's new well, bottomed at 7,981 feet, was brought in flowing 256 bbls. of 58.7 gravity oil and 22,410,000 feet of natural gas per day. No. 87-3-P was finished with a 5¾-inch combination perforated liner. The 555 feet of liner was landed on bottom, 7,981 feet, and has a total of 444 feet of perforations. This liner was perforated at 7,481-7,585 feet and at 7,641-7,981 feet. Union Oil Co. expects to complete No. 4 Amerada King in the North Dome within the next two or three weeks. This well is rotating at 8,235 feet. The crew from this well is expected to be transferred to No. 25 Amerada King, the location for which was staked a few days ago. Associated Oil Co. ran a formation tester in No. 4 Whepley in the North Dome at 8,415 feet but the result was unsatisfactory as the tester showed oil and water, the latter testing approximately 1,000 grains of salt per gallon.

Mountain View

Hogan Petroleum Co. has taken over the Porter Day lease of the Shell Oil Co. in the Mountain View Field of Kern County and is grading location for No. 3 Porter Day. In taking over the Porter Day lease of the Shell, Hogan Petroleum Co. acquired two dry holes drilled by the Shell. No. 2 Porter Day, a direct offset to the Hogan Petroleum Co.'s No. 1 Wharton, the first commercial producer finished in the Mountain View Field, was a disappointment as it looked almost definitely assured of commercial production.

No. 1 Porter Day, drilled by the Shell a few years ago, flowed for several hours at the rate of 2,000 bbls. per day but was never completed successfully as the company decided to carry it on down as a deep test. After failing to find commercial production with depth, No. 2 Porter Day was plugged back to the Santa Margarita, but the Shell was never able to return it to production.

The Hogan Petroleum Co. entered the Mountain View Field after the area had remained relatively quiet for a year or so and succeeded in developing commercial production in its first test, No. 1 Wharton. Following this completion, the company completed No. 2 Wharton and has one other well under way in this field.

A. T. Jergins is rigging up No. 1 Bloemer for early work in this field and has foundations in for No. 1 Nance and No. 1 Wright-Bloemer in Section 30-30-29. Mohawk Petroleum Co. is also enlarging its scope of work in the Mountain View Field and will probably spud in No. 1 McKeehan early in the new year. The Bankline Oil Co. is expected to abandon No. 1 Symons as a duster at 6,088 feet within the next week or 10 days.

Lost Hills-Belridge

General Petroleum Co. is expected to resume drilling operations in No. 1 Berry early in 1934 and this deep test in the

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Dec. 16		Dec. 9			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	.....	.....	80,650	11,521	80,650	213,322
Fuel oil	76,305	10,901	367,699	52,528	4,565,551	.....
Diesel and gas oil	74,815	10,688	75,363	10,766	1,377,226	1,635,228
Gasoline	183,382	26,197	112,876	16,125	10,481,417	7,443,140
Kerosene	50,214	7,173	.....	.....	956,508	280,481
Other finished oil	.....	.....	.....	.....	90,557	.....
Other unfinished oil	.....	.....	.....	.....	72,584	.....
Foreign exports—						
Crude oil	61,625	8,804	424,321	60,617	7,435,299	8,213,791
Fuel oil	70,783	10,112	117,669	16,810	7,611,324	7,649,820
Diesel and gas oil	28,731	4,104	2,500	357	3,320,086	2,733,362
Gasoline	91,199	13,028	42,669	6,096	5,365,018	7,874,919
Kerosene	.....	.....	2,225	318	1,828,622	2,725,099
Naphtha distillates	.....	.....	.....	.....	.....	120,075
Other finished oil	.....	.....	.....	.....	12,086	.....
Other unfinished oil	.....	.....	.....	.....	66,375	.....
Coastwise-domestic—						
Crude oil	.....	.....	69,987	9,998	6,170,379	13,699,854
Fuel oil	385,023	55,003	141,291	20,184	10,389,338	11,398,201
Diesel and gas oil	.....	.....	11,718	1,674	968,963	1,354,035
Gasoline	331,393	47,342	172,110	24,587	12,206,370	14,527,173
Kerosene	.....	.....	14,627	2,090	196,756	169,886
Naphtha distillates	.....	.....	.....	.....	27,651	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	198,610	28,373	.....	.....	818,149	650,980
Gasoline	.....	.....	.....	.....	804,548	1,251,702
Kerosene	47,706	6,815	.....	.....	536,136	257,686
Lubricants	.....	.....	.....	.....	41,339	31,804
Foreign exports—						
Crude oil	39,969	5,713	.....	.....	1,736,630	889,922
Fuel oil	.....	.....	78,440	11,206	1,873,671	964,102
Diesel and gas oil	.....	.....	21,043	3,006	968,783	772,957
Gasoline	.....	.....	175,790	25,113	3,832,846	3,931,270
Kerosene	.....	.....	84,367	12,052	1,066,367	1,008,029
Lubricants	.....	.....	7,073	1,010	134,591	30,094
Other finished oil	.....	.....	.....	.....	3,745	.....
Other unfinished oil	.....	.....	.....	.....	26,278	.....
Coastwise-domestic—						
Fuel oil	218,583	31,226	49,154	7,022	3,956,351	2,970,519
Diesel and gas oil	.....	.....	74,918	10,703	349,663	438,746
Gasoline	153,530	21,933	78,976	11,282	4,416,517	3,674,799
Kerosene	.....	.....	.....	.....	114,138	139,968
Lubricants	.....	.....	.....	.....	2,751	.....

South Belridge Field of Kern County may change the entire outlook of this field. No. 1 Berry is the deepest well drilled in the South Belridge Field and if commercial production is developed it will substantially increase the ultimate production of the state. Commercial production has been developed in both the Temblor and underlying Eocene in the North Belridge Field and it is quite obvious that if either or both of these formations are found productive in the South Belridge Field it will be of paramount importance.

Union Oil Co. has started rig construction for No. 18 Belridge, a new well drilled in the North Belridge Field of Kern County, and spud is scheduled to be made on January 10. This new well is being drilled into the Temblor in the North Belridge Field and is being started for protection purposes only in order that company may be in a position to exploit the Eocene whenever deep drilling gets under way. The Associated is still drilling in No. 1 Williamson in the Lost Hills Field of Kern County but has not encountered a sufficient thickness of oil sand to result in commercial production.

Ohio Oil Co. ran a formation tester in its No. 1 K. C. L., a wildcat being drilled in the extreme eastern end of the Buena Vista Lake, and the result showed a rather heavy gas at 4,202 feet. Drilling operations were resumed, however, but the company will continue to core at frequent intervals. This well was located by geophysical exploration and the outcome of actual drilling will consequently be watched with interest. The Shell Oil Co. is grading for a new well on the Premier lease in the Gould Hills district of Kern County and spud is expected to be made early in January. The Shell's new wildcat is located approximately midway between the McKittrick and South Belridge Fields and about 5 miles east of the Temblor section. Milham Exploration Co. has just landed 8⅝-inch water string in its No. 12-8 in the Buttonwillow gas field of Kern County and should consequently have this well ready for a production test within the next week or 10 days.

Montebello

There appears to be some question as to how much longer operators in the Montebello Field of Los Angeles Basin will be able to retard deep zone exploitation. There has been an increasing tendency toward the drilling of new deep wells in the Montebello Field during the past few weeks. During the latter part of December the Texas Co. started rigging up rotary drilling equipment on No. 4 Barry and the Standard started rig construction for No. 73 Baldwin and No. 18 Temple. In addition to these new wells, the Universal Consolidated is drilling in two projected deep zone completions, while the Standard is rotating in No. 2 Baldwin.

In the Dominguez Field the Union Oil Co. completed No. 33 Callender, a new well doing 110 bbls. of 31.6 gravity oil per day at 5,058 feet. In addition to completing this project, the Union passed No. 23 Hellman for a production test after plugging back the hole from 5,230 feet to 4,970 feet. Mutual Oil Co. is rigging up rotary drilling equipment for its initial test on the Carpenter lease in this field and the bit is expected to be making hole in this project within the next week or 10 days. In the West Coyote Field the Standard Oil Co. is building rig for No. 11 Murphy Coyote and is washing perforations on No. 114 Murphy Coyote preparatory to conducting a production test after plugging back the hole from 6,292 feet to 6,192 feet. Sy Reubens has landed a 4½-inch liner in No. 1 Tuffrees, an outpost in the East Coyote Field, and is running tubing for a production test to be conducted within the next week or 10 days.

Long Beach

Sigmar Drilling Co. finished a fairly good well in the Long Beach Field of Los Angeles Basin when No. 1 Signal was brought in pumping 405 bbls. of oil at 4,856 feet after the hole had been finished with a 4¾-inch liner including 735 feet of perforated. General Petroleum returned No. 3 K.&H. to production in this field after redrilling this 5,395-foot hole to 4,800 feet. Upon being recompleted, this well was brought in pumping 155 bbls. of 22.8 gravity oil per day. Union Oil Co. is expected to complete No. 4 A.&P. in the Breen zone at Richfield some time within the next few weeks, as the company is at present nearing the pay. Continental Oil Co. ran into mechanical trouble in No. 32 Bixby, a new well in the Seal Beach Field of Los Angeles Basin while rotating at 4,017 feet and is consequently being held up pending recovery. J. K. Wehrman has taken over the property of the Pedro Petroleum Co. in the San Pedro district of Los Angeles Basin and has started drilling operations. In the Pico district, W. S. Kyle is building rig for a wildcat to be drilled in Section 7-2-11 near Beverly and San Gabriel Boulevards.

Union Avenue

The Union Oil Co. is completing preparations to conduct another production test on its No. 1 K. C. L., a wildcat located in the Union Avenue district of Kern County, and the company should determine within the next few weeks whether the showings encountered in this project are of any special consequence. The Union has logged 34 feet of exceptionally promising oil sand in its Union Avenue wildcat but a defective water shutoff or a contaminated oil formation prevented the development of commercial production on a preliminary production test conducted late in December. Despite the water trouble encountered by the company, this test will bear watching during the next few weeks as it shows promise. If the Union develops commercial production in No. 1 K. C. L., it will either open up a new field in the Union Avenue district or substantially extend the proven limits of the Mount Poso Field. Due to the irregularity of subsurface conditions in the Mount Poso Field, petroleum engineers are unable to determine the significance of the showings encountered by the Union. The Alta Oil Corp. is rotating in its Union Avenue test at approximately 5,400 feet and while several minor showings have been logged from time to time, the company has not yet encountered a sufficient thickness of oil sand to justify a production test.

Mount Poso

Union Oil Co. has started rig construction for Nos. 9 and 10, two new wells to be drilled on the S. & M. property in the Mount Poso Field of Kern County, and rotary drilling equipment is expected to be installed this week. John Lewis logged the top of the Vedder zone in his No. 1 at 892 feet and the hole is being abandoned as a duster at 982 feet. General Petroleum has landed an 8⅝-inch water string in No. 26 Heisen at 1,960 feet preparatory to an early production test. The Honolulu Oil Corp. is rigging up rotary drilling equipment on No. 15 which will be drilled in the Midway-Sunset Field of Kern County in Section 14-32-24. This well will be located in close proximity to the Honolulu's No. 23, a recent completion that showed substantial production.

The R. & M. Oil Co. has finished No. 1 Mesa in the Santa Barbara Mesa Field, pumping 101 bbls. of oil at 2,066 feet. Fred Garliepp is preparing to make a production test on his No. 1 in the Santa Barbara Mesa Field as a satisfactory water shutoff has been effected on the 8⅝-inch at 2,025 feet. In the Summerland Field of Santa Barbara County, Julius Dietzmann is rotating in No. 1 Williamson in the red shale of Sespe formation at 3,600 feet. Barnsdall and Rio Grande have set a whipstock in No. 8 Doty, a deep test in the Elwood Field, and the hole is being cleaned out preparatory to a resumption of drilling at 4,095 feet.

The General Petroleum is preparing to plug back No. 7 Erburu in the Capitan Field of Santa Barbara County due to water trouble. The Shell is building a new road preparatory to starting another well on the Covarubbius in the Capitan Field of Santa Barbara County and drilling operations are expected to get under way before the close of January. The Chanslor-Canfield Midway Oil Co. is cleaning out No. 2-A Hobson in the San Miguelito Field of Ventura County and expects to have this well back on production within the next 10 days. No. 2-A Hobson, bottomed at 10,030 feet but subsequently plugged back to 7,825 feet, sanded up several weeks ago but should be back on production after the cleanout job has been completed. This was the first well to be finished in the San Miguelito Field but because of its small production and structural location the Continental's No. 1 Grubb has been generally regarded as the first commercial producer to be finished in the San Miguelito Field.

CALIFORNIA GAS CASE

SAN FRANCISCO, Calif., Jan. 2.—Federal Judge Louderback, on stipulation of counsel for both the Pacific Gas & Electric Co. and the California Railroad Commission, has signed an order continuing the natural gas rate reduction case to January 11. Temporary restrainer against the order of the commission continues to that date.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Status—
Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co.	2-	2-15		7,150	suspended
Clayton, G. L., No. 1 Clearwater, Los Angeles Co.	31-	3-12		1,173	suspended
Pacific Gulf, No. 1 Athens, Los Angeles Co.	19-	3-13		6,034	suspended
Pacific Dev. Co., No. 1 Wilmington, Los Angeles Co.	16-	3-13		3,902	hd. sd. drilling
Mutual Oil Co., No. 1 Dominguez, Los Angeles Co.	3-	4-13		rig	rigged up
Kelly & Son, No. 1 Torrance, Los Angeles Co.	7-	4-13		5,088	sd. sh. drilling
Wehrman, J. K., No. 1 San Pedro, Los Angeles Co.	14-	5-14		1,108	sd. sh. drilling
Hudson, T. T., No. 1 Inglewood, Los Angeles Co.	17-	2-14		rig	rigged up
Oakes & Mead, No. 1 Lynwood, Los Angeles Co.	31-	2-12		4,940	suspended
Celito Oil Co., No. 1 Monterey Park, Los Angeles Co.	25-	1-12		5,319	suspended
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34-	1-11		5,490	cleaning out
Universal Consd., No. 2 Montebello, Los Angeles Co.	5-	2-11		5,071	sd. sh. drilling
Universal Consd., No. 3 Montebello, Los Angeles Co.	5-	2-11		5,030	sd. sh. drilling
Midfield Oil Co., No. 1 Pico, Los Angeles Co.	19-	2-11		2,016	cemented
Kyle, W. S., No. 1 Pico, Los Angeles Co.	7-	2-11		....	material
Rex Anglin Dev. Co., No. 1 Los Nietos, Los Angeles Co.	29-	2-11		rig	suspended
Signal Pet., No. 1 Puente, Los Angeles Co.	14-	2-10		4,908	pumps water
Eldorado Pet., No. 1 Puente, Los Angeles Co.	30-	2-	9	2,880	instal. equip.
Recovery Oil Co., No. 1 Sunset Beach, Los Angeles Co.	16-	5-11		3,400	suspended
Superior Oil Co., No. 1 Sunset Beach, Los Angeles Co.	19-	5-11		mtl.	building rig
Barstow Oil Co., No. 1 Saugus, Los Angeles Co.	35-	5-16		2,136	cleaning out
Alpha Oil Co., No. 1 Calabasas, Los Angeles Co.	22-	1-18		1,317	suspended
Marble, Willard, No. 1 Van Nuys, Los Angeles Co.	6-	2-16		2,760	suspended
Black Eagle Oil Co., No. 1 Huntington, Orange Co.	tideland			2,411	hd. sd. drilling
Nuoil Co., No. 1 Newport, Orange Co.	29-	6-10		5,170	sd. sh. drilling
Tehama Pet., No. 1 Santa Ana Canyon, Orange Co.	33-	3-	8	rig	rigging up
Placentia Dev. Co., No. 1 Placentia, Orange Co.	31-	3-	9	3,670	hd. sh. drilling
Rubens, Sy., No. 1 Atwood, Orange Co.	19-	3-	9	3,368	prod. test
Bardeen Pet., No. 1 Coyote, Orange Co.	13-	3-10		1,046	hd. sd. drilling
Bartholomae Oil Co., No. 1 Coyote, Orange Co.	22-	3-10		3,246	cemented
Spindle Top Oil Co., No. 1 Salton Sea, Riverside Co.	25-	7-10		3,590	suspended
Great American Pet., No. 1 Chino, San Bernardino Co.	18-	2-	8	2,645	fish for D/P
Great American Pet., No. 2 Chino, San Bernardino Co.	18-	2-	8	2,540	br. sh. drilling
McCarthy, C. F., No. 1 Chino, San Bernardino Co.	14-	3-	6	803	suspended
Edmonds, E. A., well No. 1, San Diego Co.	29-15-		3	649	suspended

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Status—
General Pet. No. 9 Capitan, Santa Barbara Co.	32-	5-50		rig	suspended
General Pet., No. 7 Capitan, Santa Barbara Co.	32-	5-30		1,463	cleaning out
Shell Oil Co., No. 2 Capitan, Santa Barbara Co.	32-	5-30		....	build road
Lincoln Drlg. Co., No. 3 Summerland, Santa Barbara Co.	21-	4-26		2,603	suspended
Dietzmann, J., No. 1 Summerland, Santa Barbara Co.	16-	4-26		3,620	rd. sh. drilling
Meganos Oil Co., No. 1 Purisima, Santa Barbara Co.	28-	8-34		3,000	suspended
Barnsdall-Rio Grande, No. 8 Doty Elwood, Santa Barb. Co.	15-	4-29		4,869	redrilling
Signal Oil & Gas Co., No. 2 Elwood, Santa Barbara Co.	..	tideland		5,016	redrilling
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27			3,950	suspended
Indian Pet., No. 1 Shude, Ventura Co.	tideland			4,150	pump 70 B/D
Woodrow Pet., No. 1 Rincon, Ventura Co.	4-	3-24		7,612	suspended
Hancock Oil Co., No. 1 Fillmore, Ventura Co.	13-	4-19		3,357	bailing
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1-	4-19		360	sd. sh. drilling
Driggs Pet., No. 1 South Mountain, Ventura Co.	17-	3-20		3,970	gr. sd. drilling
Kneiper & Atha, No. 1 Bardsdale, Ventura Co.	7-	3-19		1,560	hd. sd. drilling
Williamson & Donaher, No. 1 Simi, Ventura Co.	36-	3-18		790	suspended
Dabney, H. R., No. 1 Simi, Ventura Co.	22-	2-18		1,200	gr. sh. drilling
Midlands Pet., No. 1 Ojai, Ventura Co.	9-	3-23		7,830	suspended
Laing & Jacobs, No. 1 Shiells, Ventura Co.	32-	4-19		201	suspended
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co.	20-	4-21		2,198	suspended
Kirk, W. A., No. 1 Sulphur Mountain, Ventura Co.	21-	4-21		1,380	br. sh. drilling
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22-	4-21		1,800	br. sh. drilling
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22-	3-20		5,560	gr. sd. drilling
International Oil Developers, No. 1 Conejo, Ventura Co.	33-	2-20		2,916	hd. sd. drilling
Hub Pet. Co., No. 1 Gould Hills, Kern Co.	22-29-21			6,840	suspended
Shell Oil Co., No. 1 Gould Hills, Kern Co.	21-29-21			....	material
Milham Exploration Co., No. 25 Buttonwillow, Kern Co.	8-28-23			2,340	cemented
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20			4,982	suspended
General Pet., No. 1 Belridge, Kern Co.	30-28-21			9,972	cemented
Union Oil Co., No. 18 Belridge, Kern Co.	36-27-20			....	material
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18			3,270	suspended
Hanna, Tom, No. 1 Devils Den, Kern Co.	25-25-18			3,516	suspended
Pyramid Hills Oil Co., No. 1 Devils Den, Kern Co.	24-25-18			4,140	suspended
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-26-19			3,170	suspended
Associated, No. 1 Lost Hills, Kern Co.	2-26-20			6,770	sd. sh. drilling
Howells Bros., No. 1 Round Mountain, Kern Co.	32-28-29			1,612	sd. sh. drilling
Keno Pet. Co., No. 1 Lerdo, Kern Co.	14-29-27			4,531	suspended
Carribou Record Oil Co., No. 1 Kern Front, Kern Co.	11-28-27			rig	rigged up
Bankline Oil Co., No. 1 Kern Front, Kern Co.	28-28-27			rig	rigging up
Shafter Oil Co., No. 1 Shafter, Kern Co.	8-28-25			....	material
Ohio Oil Co., No. 1 Buena Vista Lake, Kern Co.	31-31-26			4,220	showing gas
Union Oil Co., No. 1 Union Avenue, Kern Co.	15-30-28			5,647	testing
Alta Oil Co., No. 1 Union Avenue, Kern Co.	6-30-28			5,350	sd. sh. drilling
Hogan Pet. Co., No. 1 Shell Mountain View, Kern Co.	29-30-29			5,910	suspended
Hogan Pet. Co., No. 2 Shell Mountain View, Kern Co.	29-30-29			5,863	suspended
Hogan Pet. Co., No. 3 Shell Mountain View, Kern Co.	29-30-29			mtl.	building rig
Hogan Pet. Co., No. 3 Mountain View, Kern Co.	29-30-29			4,309	sd. sh. drilling
Bankline Oil Co., No. 1 Mountain View, Kern Co.	4-31-29			6,088	to abandon
Barnsdall Oil Co., No. 1 Mountain View, Kern Co.	31-30-29			6,444	suspended
Labadie, E. L., No. 1 Mountain View, Kern Co.	29-30-29			3,000	sd. sh. drilling
Mohawk Pet., No. 4 Mountain View, Kern Co.	30-30-29			4,809	sd. sh. drilling
Comanche Oil Co., No. 1 Comanche, Kern Co.	15-32-29			1,400	sd. sh. drilling
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-19			4,976	suspended
Gatton & Luethe, No. 1 Madera, Madera Co.	32-10-17			3,020	suspended
Russ Oil Synd., No. 1 Kingsburg, Fresno Co.	20-12-11			3,900	plugging back
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	12-12-11			4,279	cleaning out
Graham & Loftus, No. 1 Raisin City, Fresno Co.	20-15-18			5,906	suspended
Emerich Oil Co., No. 1 Mendota, Fresno Co.	35-13-13			3,820	suspended
Western Gulf, No. 1 S. P., Fresno Co.	3-17-15			7,580	sd. sh. drilling
Hogan Pet. Co., No. 1 Joaquin Ridge, Fresno Co.	28-20-16			6,605	suspended
Superior Oil Co., No. 1 Jacalitos, Fresno Co.	6-22-16			7,600	sd. sh. drilling
Kent & McDonald, No. 1 Carrizo Plains, S. Luis Obispo Co.	3-22-22			3,830	suspended
Farrel Pet., well No. 1, San Luis Obispo Co.	18-31-12			1,095	cleaning out
Willet Oil Co., No. 1 Cholame, San Luis Obispo Co.	10-25-15			rig	rigged up
Guess, E. B., No. 1 Corcoran, Kings Co.	7-21-21			6,197	suspended
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17			6,873	suspended
Magee & Stone, No. 2 Alpaugh, Kings Co.	33-21-22			3,149	suspended
Douglass, J. M., well No. 1, Monterey Co.	36-22-		9	193	tech. spud
Na-Pa Oil Co., No. 1 Griffith, Napa Co.	7-	8-	3	3,750	suspended
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5-	2-10		4,760	hd. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo County	23-12-	3		5,440	hd. sd. drilling
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-16-	1		2,731	gas, shut in
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	35-16-	1		4,136	hd. sd. drilling
Tehama Pet. Co., well No. 1, Glenn Co.	4-22-	5		4,696	redrilling

Bee County Test Looks More Like New Pool; Two Other Tests to Be Closely Watched

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Jan. 2.—Dash Production Co.'s No. 1 Ruhman in northern Bee County is building separator and though not gauged gives more evidence of opening a new pool in the Pettus sand. Estimates are it will make around 50 bbls. of oil and guesses are that the oil is about 30 gravity. The sand depth is 3,176-3,205 feet and it stopped in sand. This new productive pool is 5 miles northwest of the Pettus Pool, where the Pettus sand is found about 900 feet deeper and it is getting ample sand thickness, comparing favorably with wells in the Pettus Field though some there got even more sand.

Dash Production Co., subsidiary of the Luling Oil & Gas Co., owns about 6,000 acres with the exception of 200 acres given United Gas Co. for gas for fuel to drill the first well, and the new producer is pretty well toward the center of the block. Up to late in the week the company had not announced further plans. It is presumed no location will be made till the separator for No. 1 Ruhman is completed and a gauge is had on its production.

The north wells of the Pettus Pool were almost entirely gas and made gasoline. One concern with a well in the extreme north end of the Pettus Pool sold its product at a filling station for gasoline without refining. Wells farther south in the field made less gas and more oil of lower gravity. Assumptions concerning the new pool are based on the experience of the Pettus Pool and will continue to be until something different is proven. If it follows the lines of the Pettus Pool the long way of it will be somewhat north of east and somewhat south of west of the producer and the production will lie to the south and southeast of the discovery well.

The coming year will watch two prospective pools in northern Bee, Dash Production Co.'s No. 1 Ruhman being the discovery of one and McLain's No. 1 Weiss, 4 miles southeast of Pettus, a gas well spraying oil, being the other. Interesting point about each is that neither is in the trend with the Pettus Pool, but the one is northwest and the other southeast. McLain's No. 1 Weiss is somewhat on a trend with the Tuleta Pool and gets the sand at about the same depth.

Duval County

The only wildcat in the Government Wells play at this time is O. W. Killam's No. 3-A Wood-Welder (carried by some as No. 5 Wood-Welder), 3 miles north of the North Government Wells Pool and 1 mile south of the Eagle Hill Pool. The latest depth reported on it was 600 feet and it must drill to around 2,100 feet to get the Government Wells sand so it will be another week at least before it is ready to report anything.

Of the fields Sun Oil Co. at the close of the week was completing two tests, 660 feet west of production at the north end of the North Government Wells Pool, both of which looked like producers, No. 16 and No. 17 Weiderkehr in Survey No. 359, and was also completing No. 10 Weiderkehr, 660 feet south of production of the Extension Pool and a mile west of the North Government Wells Pool and in Survey No. 361.

Eagle Hill Pool

In the Eagle Hill Pool, Shasta Oil Co.'s No. 1 Foster, 660 feet east of production, which a week ago looked like a salt water well, is reported making more oil and less water and is being put on the pump. The company has made location and is starting No. 2 Foster, 660 feet south of No. 1 and 660 feet east of R. D. Kelly's No. 2 Foster.

A completion of interest during the week is Texas Co.'s No. 1-B Wendt in the center of the east 70 acres of the NW of Survey No. 43, a half mile west of production in the North Government Wells Pool, and a 10,000,000-foot gas well in sand at 2,230-45 feet. A half mile or more north and half mile east of it are a couple of gas wells set off a little to the west of production in the field.

On the whole, Duval County was devoid of interesting developments but the understanding is there is to be quite a little increase in activity in the coming year. Outside of the field development there is very little to watch. Eaton's No. 1 Herbst, 7 miles east of Government Wells, was down 1,850 feet at the close of the week and had tested dry sand at 1,733-44 feet but is hardly deep enough yet to furnish anything interesting. Shasta Oil Co. is down nearly 1,700 feet in its No. 1 Weil, which may prove very interesting in another week or so. It is in Survey 566 about a mile and a half south and slightly west of production in the Sarnosa Pool and in line with a couple of dry holes drilled by John F. Camp that had some slight showings and it is about 3½ miles northeast of the nearest production in the North Kohler Pool.

McMullen County

In southern McMullen County, Lefevre & Spice have made location for No. 1 Hagist in Section 17 of the H.& T.C. Railway Survey, 330 feet from north and east lines of the south 200 acres of the section, which is approximately 4¼ miles north and slightly east of the Eagle Hill Pool and directly in the Government Wells play.

C. C. Shumway has made location for his No. 4 Shiner in central McMullen County which will be drilled as soon as Continental approves titles, that company having taken a considerable interest in the deal.

Elsewhere in the Laredo district nothing has happened except that operators have made more hole and A. H. Wray has completed another shallow gas well at 350 feet in northern Zapata County several miles west of production in the Mirando Valley Pool.

Brooks County

Among recent deals Sun Oil Co. has taken a 10-year lease on the J. C. Cage 46,000-acre ranch in central Brooks County and has checkboarding around over Nueces County. Like all other big block deals by majors it is understood Sun has taken this at small bonus and small annual rental.

It is expected that Continental early the coming year will drill the first of the tests it contracted to drill on the 53,000-acre Driscoll ranch in Duval County, deal on which was closed some months ago and with arrangement to drill a number of tests before making selection of acreage from the tract.

Hidalgo County

In Hidalgo County there is no verdict yet reported from Chancellor & Hall's No. 1 Garcia in the southwestern corner of the county which sidetracked and set casing with a showing at 3,070 feet. It has been rumored from time to time a test would be made early in January.

Cuevitas Pool

Sun Oil Co. had two more tests, No. 9-A Guerra and No. 4-B Guerra, in the Cuevitas Pool in northwestern Starr County, that were close to sand depths at the close of the week but Mims and others' No. 1 Guerra, 2 miles northwest with salt water at 2,325 feet, and Navarro Oil Co.'s No. 1 Trevino, 10 miles farther northwest and in Jim Hogg County, at 2,700 feet and far below the sand of the Cuevitas Pool, both were out of the picture so far as the Cuevitas sand is concerned.

Some new wildcats entered the field the past week. Garland Clymore is moving in to drill in Bee County on the Rapp & Hatch land southwest of the Tuleta Field and north of Grisham's No. 1 Rapp & Hatch which some months ago created considerable interest and made some oil and gas at 4,393 feet in a deeper sand than producing in the Tuleta Pool.

DeWitt County

Humble Oil & Refining Co. has made location for No. 1 Knester in southern DeWitt County in S.A.&M.G. Survey No. 47.

Balcones Fault Zone

In the Balcones Faul territory after being delayed for more than a month with a fishing job, Amerada Corp. has cemented off tools and will sidetrack in No. 1 Doerring at 6,064 feet in southwestern Frio. Humble with its deep test in central Wilson County on the Houston farm between Floresville and Stockdale has been making good headway and at 4,755 feet late in the week had less than 400 feet more to reach the depth at which No. 1 Hardy, in the same district, got the Edwards.

In Bexar County Pagenkopf's No. 1 Goeth, south of the Southton Pool, has finally lost the hole at 2,065 feet without conclusive identification of the formation. The quantity of gas and the log of the well above that seems to indicate a structure, and he will drill another a little north of the first.

Johnson's No. 1 Willow Springs got water in the Trinity at 2,021 feet, a few miles east of San Antonio, and is plugging back to 1,980 feet where there was a showing of oil in the Trinity and will make a second test there before deciding what next to do.

There was only one completion in the Serpentine districts along the Balcones that resulted in a producer. It was Marts & Beavens' No. 4 Riddle in the North Dale Field in southern Bastrop County for 80 bbls. daily and there was another failure in the new Byersville Field in Williamson County, Taylor Production Co.'s No. 1 Reiger at 985 feet in Serpentine was dry.

Wildcat Operations in Southwest Texas

Week Ending December 30

ATASCOSA COUNTY

Company, well, farm name, section and block—	Remarks:
E. O. Burton's No. 1 Blankenship, 1,470 ft. from NW line, 1,830 ft. from SW line of 320-ac. tract, in T. Orr Sur. No. 176	T.D. 250 ft.; T.A.
Dan McMahan's No. 1 Smith & Mowinkle, 245 ft. from NE line, 2,300 ft. from SE line of Alexander, Crain, Harris & Brooks	T.D. 4,200 ft.; abd.; Mowinkle will convert it into a sulphur wtr. well.

BASTROP COUNTY

Sun Oil Co.'s No. 1 Page-Probst, 330 ft. from E line, 330 ft. from S line of 103-ac. tract in Andrew Mays Sur.	Moving in rig.

BEE COUNTY

Dash Prod. Co.'s No. 1 Ruhmann, 525 ft. from W line, 150 ft. from N line of lease in J. M. Thurston Sur.	T.D. 3,205 ft.; est. 40 bbls. of 30 gravity oil daily; gas pressure on csg. 990 lbs.; 850 lbs on tubing on 5/16-in. choke.

BELL COUNTY

Gus Winston et al's No. 3 Warrick, 100 ft. N of James Scroggins' No. 1 Warrick, in Elijah Ingram Sur.	T.D. 2,000 ft.; fishing.
R. S. Wilson's No. 1 Davenport, 200 ft. from W line, 700 ft. from S line of J. L. Herred Sur.	T.D. 1,235 ft.; abd.

BEXAR COUNTY

C. I. Albertson's No. 2 C. Hoke estate, 675 ft. from E line, 250 ft. N of Medina River in Jose Maria Barrera Sur.	T.D. 1,134 ft.; bailing.
A. M. Blume's No. 2 Louis Ridder, approximately 2,350 ft. N of R.R., and 700 ft. E of W line of J. M. Baerera Sur. No. 58	T.D. 680 ft.; drlg.
Cosby et al's No. 1 Ruiz, SE cor. of 82-ac. tract in F. Rowland Sur. No. 48	T.D. 819 ft.; previously abd. by Fre Perrenot and R. J. Keiffer; Cosby to deepen it to Edwards lime; on bottom, arranging to core.
S. W. Forrester's No. 1 Appelt, 160 ft. E of Corpus Christi Road, 1,666 ft. S of N line of tract in M. Urregias Sur.	T.D. 840 ft.; drlg. shale.
Thos. Gorton's No. 1 Edward Jackel, 600 ft. from N line, 800 ft. from E line of tract in J. Ward Sur.	Drlg.
S. J. Moore's No. 1 T. W. Masterson, 150 ft. from S and W lines of tract in M. Cartari Sur.	T.D. 200 ft.; drlg.
George L. O'Neill's No. 1 Neimann in Juan Montez Sur. No. 6	T.D. 972 ft.; running liner.
J. W. Johnson's No. 1 Willow Springs, 150 ft. from N and W lines of lease in B. Munoz Sur. No. 151	T.D. 2,021 ft.; P.B. and bailing.
Fred A. Perrenot's No. 1 Russell, 750 varas from NE line, 54 varas from NW line of 500-ac. tract in Rodriques Sur.	T.D. 1,315 ft.; standing.
C. A. Smith's No. 1 Henry Lamb, 750 ft. from N and E lines of Lamb farm, in de la Garza grant	T.D. 730 ft.; drlg.
F. E. Tegler's No. 1 Brackenridge, 578 ft. from S line, 2,284 ft. from W line of tract in Maria Gertrudis de Alaniz Sur.	T.D. 1,320 ft.; reported abd. last week by mistake; moving in big rig.

(Continued on Page 56)

Wildcat Most Important Since Conroe Field; Rating of Northwestern Liberty County Test

By W. A. SPINNEY
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Jan. 2.—Gulf Production Co.'s wildcat producer in the Tarkington Prairie or Cleveland district of northwestern Liberty County, which was completed December 29, is rated here as one of the most outstanding discoveries on the Gulf Coast since the opening of the Conroe Field. Only 8 feet in sand topped at 5,717 feet, the well, No. 1 Kirby Lumber Co., J. Pleasant Survey, flowed 658 bbls. of pipe line oil in the first 12 hours before being shut in. Production was through three-eighths inch choke on tubing and working pressure before the well entirely cleaned itself gauged 900 pounds.

Although predictions are a little out of order with only one well in, conditions in this well and other indications in the area have led many operators to the opinion that another major field of the Conroe type is in the making. However, the fact that virtually all the available acreage in that general area is held by the Gulf Production Co. will prevent an extensive or rapid development program. The well is located on a 1,200-acre tract, which is a part of a block of 20,000 acres. Gulf also holds approximately 42,000 acres additional throughout northern Liberty County, acquired in an intensive leasing play which has been carried on at various times in the last couple of years.

The oil is of light gravity and reported comparable to that produced at Conroe. Of particular interest is the fact that the sand is in the top of the Cockfield, the bottom of the hole at 5,724 feet being only 28 feet in that formation. The main producing horizon at Conroe is some 200 feet or so down in the Cockfield, making the Gulf discovery show up all the more favorable. That the sand is the same as the upper Cockfield sand at Conroe, which sand in that field is largely gas over the main part of the producing area, is likely. This leaves the way open to considerably further development into the Cockfield at Tarkington Prairie.

The new Gulf well is some 25 miles to the east and south of the Conroe Field and in an area which has been looked upon with favor for some time although so far there has been very little actual drilling exploration. The area, however, is limited to the east by a deep wildcat recently drilled by Hamill & Smith on the Peavey Lumber Co. tract in the Jordon West Survey. This test, abandoned at 6,135 feet, was about 2 miles away. Two other deep tests were drilled about 6 miles to the north near the townsite of Cleveland about two years ago.

There are very few leases open anywhere near the Gulf well but there has been an intense interest in minerals with prices rising to bases of $200 to $300. Gulf has been reported taking additional leases in the vicinity of the townsite of Cleveland and around the outside of its large block.

Polk County

Another interesting wildcat test was completed the last part of the week in southern part of Polk County. It was Dick Schwab's No. 2 Kirby, in the G. S. Thomas Survey, which was tested for about two hours and was then shut in. It was estimated at from 100 to 300 bbls. of fluid and from 6,000,000 to 12,000,000 feet of gas a day. The well has not been allowed to clean itself because of lack of storage. The oil and gas were found in the sand from 4,778-4,850 feet. This is the second well drilled in this area, the first about 600 feet northeast was also drilled by Dick Schwab, and it made approximately 50,000,000 feet of gas from the upper part of the same sand and when drilled deeper made considerable salt water and was abandoned.

The No. 2 Kirby is located about 9 miles southeast of the Livingston Field and is in new territory. Some express the opinion that this well is on the northern edge of another pool.

Colorado County

Plymouth Oil Co.'s No. 2 Ream, in Colorado County, on the Garwood prospect, made a drill stem test during the week, showing considerable oil. The oil was found in sand at 6,194-97 feet. The well built up a pressure of 250 pounds and the oil filled up 575 feet in 15 minutes. This is the seventh test drilled in the area. The first made considerable gas, and one of the others made approximately 2,000 bbls. of oil before being abandoned, and all of the others were abandoned as dry holes.

Liberty County

Miramar Oil Corp. has taken over the development of the Crowe and Jacobs lease about a mile east of the Hankamer Field in Liberty County. Gulf Production Co. farmed out this acreage after drilling two test wells. The first well made some oil and was later abandoned and the second test was abandoned with nothing showing. The Miramar Oil Corp. has made a location for its No. 1 Crowe and Jacobs, in the H.&T.C. Survey, Section 21, 950 feet from the east line and 110 feet from the south line of the tract.

Wharton County

The second well was completed in the Louise Field in Wharton County during the week. It was Pure Oil Co.'s No. 1 Kuntze, in the Morris and Cummings Survey, Section 27. The well made 102 bbls. of pipe line oil plus 30 per cent basic sediment. The pressure on the tubing was 425 pounds and the casing pressure was 856 pounds. The same company's No. 1 Houston was setting screen on bottom and was expected to be completed in a few days. No. 1 McIntyre also was setting screen and is expected to make a test of a showing of oil found in sand at 6,447-67 feet.

Greta Field

There was little of interest in the Greta Field in Refugio County during the week with the exception of the Trinity Drillers and others' No. 1 Welder, in the James T. McGrew Survey. It was drilling in water sand at 4,544 feet. This test is the most northerly drilling in the Greta Field at this time it indicates that the northern edge of the field has been defined from a production standpoint, as the Greta sand is found at approximately 4,400 feet. This test will be drilled deeper in search of another producing horizon.

Tomball Field

Reports on the developments of the Tomball Field were, one test was drilling below the pay horizon, four others were waiting for cement to set, and one was landing tubing. The Amerada Petroleum Corp. and others' No. 1 Bode, in J. Hooper Survey, was drilling at 6,255 feet, with nothing showing. Humble Oil & Refining Co.'s No. 1 Treichel, in C. Goodrich Survey, was making dry gas from a total depth of 5,571 feet. Recent developments in the Tomball area have resulted in disappointments.

Arriola Field

The producing area in the Arriola Field in Hardin County has been defined to the northeast by the finding of salt water in the Republic Production Co. and Houston Oil Co.'s No. 6 Arriola fee, at 4,460-89 feet. A drill stem test was made at this depth and after being open seven minutes only a showing of oil was reported with 22 fourbles of salt water. This test is located about 400 feet northeast of the same company's No. 5 Arriola fee, which was recently completed at a total depth of 4,210 feet for 1,200 bbls. a day.

Roanoke

The deepest drilling well in the Louisiana Gulf Coast found another sand showing oil at 8,313-23 feet. It is the Humble Oil & Refining Co.'s No. 2 DeVilbiss, on the Roanoka prospect, in Jefferson Davis Parish, which is being drilled deeper following an unsuccessful attempt to make a well at a depth of 8,262 feet. On the last report the test was drilling at 8,328 feet. At 8,313 feet the test encountered an oil sand which coring resulted in only a small recovery of the formation.

About a week was required for the cutting and pulling of the 4¾-inch screen and five joints of blank pipe used in setting casing to make a test of the oil showing at 8,262 feet which resulted in a flow of salt water. The drill stem was started back into the hole about a week ago in an attempt to locate a paying formation at a deeper level.

Shell Petroleum Corp.'s No. 1 Kratzer was drilling at 4,300 feet. It is also located on the Roanoke prospect about a mile northeast of the Humble Oil & Refining Co. test.

Iowa Field

Indications from reports on the drilling tests in the Iowa Field located along boundary lines of Calcasieu and Jefferson Davis Parishes, are that the southwest edge of the field has been defined. The Magnolia Petroleum Co.'s No. 1 M. LeBleu, in Section 7-9s-6w, found a water sand at 6,934 feet and was drilling deeper. This test is the most southwesterly in the field. The Shell Petroleum Corp.'s No. 1 Tuten, in the south end of the field, was making 3 bbls. of oil an hour from a new sand for the Iowa Field, found at 6,604-13 feet. The well has been flowing by heads through a small choke, twelve-sixty-fourths inch. The pressure on the tubing through which the well is produced was 180 pounds. When the well first started to produce it made considerable sand. Screen was set in 44 feet of broken sand from 6,592-6,636 feet. It will probably be drilled deeper. Two other tests in the field that are expected to reach the pay horizon around 6,950 feet are the Barnsdall Oil Co. and others' No. 3 Fontenot, on the east side of the field, which was drilling

Gulf Coast Fields and Wildcats

Week Ending December 30

DAMON MOUND—BRAZORIA COUNTY

Company, farm and location—	Remarks:
Intercoastal Oil Co.'s No. 11 Wisdom, 350 ft. E of No. 6, Blk. 51, Lot D, A. Durst Sur.	Drlg. shale 2,446 ft.

MANVEL—BRAZORIA COUNTY

Texas Co.'s No. 6 Belcher, H. N. Little Sur., S 42 deg. W 2,400 ft., S 48 deg. E 400 ft. from N cor. lease.	T.D. 5,476 ft.; standing.
Texas Co.'s No. 6-B Belcher, 880 ft. NW, 900 ft. NE from S cor. of H. N. Little Sur.	Drlg. sand 5,133 ft.
Texas Co.'s No. 7 Belcher, 1,430 ft. S 48 deg. E, 900 ft. W 42 deg. E from NW cor. of W. T. Belcher "A" lease, H. N. Little Sur.	Drlg. shale 5,139 ft.

STRATTON RIDGE—BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 5 Seaborn, Austin-Willia.ns Sur., 600 ft. E of No. 3 and 229 ft. S at R/A.	Drlg. shale 1,327 ft.

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Prod. Co.'s No. 5 Fisher, Wm. Bloodgood Sur., 75 ft. N line, 191 ft. W of No. 4	Comp. 800 bbls.; ⅝-in. choke, 5,370 ft.
Mills Bennett Prod. Co.'s No. 1-D Barber, 78 ft. S, 65 ft. W of NE cor.	Drlg. salt 3,439 ft.
Mills Bennett Prod. Co.'s No. 4 Means, 150 ft. W of No. 3, Henry Griffith League	Drlg. shale 4,527 ft.
Humble O. & R. Co.'s No. 3-C Kirby, H. Griffith Sur., 311 ft. from SE line, 659 ft. NE line of lease	Comp. 798 bbls.; ½-in. choke; 4,287 ft.
Sinclair Prairie Oil Co.'s No. 15 Wilburn, Henry Griffith League, 150 ft. W of No. 14	Drlg. shale 4,188 ft.
Sinclair Prairie Oil Co.'s No. 17 Wilburn, 125 ft. N of S line, 150 ft. W of No. 16, H. Griffith League	Drlg. sandy lime 914 ft.
Sun Oil Co.'s No. 15 Wilburn, 405 ft. from E, 50 ft. from W line	Derrick.
Sun Oil Co.'s No. 14 Wilburn (W.O.), Henry Hodges Sur.	Drlg. shale 5,089 ft.
Sun Oil Co.'s No. 17 Wilburn, Henry Griffith League, 150 ft. W of No. 6 and 50 ft. S of N line.	Drlg. salt 2,789 ft.
Sun Oil Co.'s No. 18 Wilburn, Henry Griffith League, 50 ft. N of S line, 50 ft. E of W line of lease.	Drlg. shale 2,808 ft.
Sun Oil Co.'s No. 19 Wilburn, 220 ft. E of W line, 342 ft. S of N line, William Hodges Sur.	Derrick.
Texas Gulf Prod. Co.'s No. 8-H Kirby, 333 ft. W of No. 6-H, 70 ft. N of S line, Henry Griffith League (W.O.)	T.D. 5,024 ft.; cutting and pulling screen.
Texas Gulf Prod. Co.'s No. 2 Wilburn, 50 ft. out of the upper SE cor. of lease, Wm. Hodges Sur.	Drlg. sand 4,252 ft.
Texas Co.'s No. 6 Wilburn (W.O.), Henry Griffith League, 250 ft. W of No. 4, 50 ft. S line of lease.	Drlg. sand 5,203 ft.
Yount Lee Oil Co.'s No. 1 Chambers, 1,760 ft. N line, 2,500 ft. W line of Bloodgood Sur. (W.O.)	Rigging.
Yount Lee Oil Co.'s No. 7 Phillips, offset Sun Oil Co.'s No. 18 Wilburn	Spudding.

BIG CREEK—FORT BEND COUNTY

Gulf Stream, Inc.'s No. 1 A. H. Theis, 236 ft. E of old No. 4 A. H. Theis in line, Mitchell Young Sur.	Standing 2,847 ft.
McPhail et al's No. 2 Wheat	Drlg. gumbo 1,230 ft.

(Continued on Page 53)

at 6,600 feet and Shell Petroleum Corp.'s No. 1 Johnson, which is the most southern test drilling in the field, was around 6,500 feet.

Lockport

Magnolia Petroleum Co.'s No. 4-A Watkins, in the original producing area of the Lockport Field, in Calcasieu Parish, was drilling at 6,710 feet, which is the deepest test yet drilled in this part of the field. A deeper test well was drilled in the extension area of the field, this being Mount Lee Oil Co.'s No. 1 Miller, about a mile west of the Watkins test, which went to a total depth of 7,800 feet before being sidetracked and completed as a producer around 6,500 feet.

Gulf Refining Co.'s No. 1 Sweet Lake, on the Hayes prospect in Calcasieu Parish, was drilling in sand at 6,857 feet with nothing showing. No showings of oil have as yet been encountered in this wildcat test.

Vinton

One completion, a 300-bbl. oil well, was reported from the Vinton Field, along with screen tests in oil sands in two other wells. The new producer is the Gulf Refining Co.'s No. 8 Gardner, which is gauging 300 bbls. a day of oil through a one-half inch choke at a total depth of 3,771 feet. The same company has cemented casing at 2,970 feet in the No. 71 Gardner-Noble-Gray, and screen will be set at 2,815 feet. Oil was showing in Wilson-Broach Co.'s No. 12 Wilson Strip. Screen has been set at a total depth of 3,288 feet.

Of particular interest was the purchase by the Humble Oil & Refining Co. from C. C. Steinberger of approximately 73 acres and eight wells for the reported consideration of $568,000, in the Conroe Field, in Montgomery County. C. C. Steinberger sold full interest in one tract of 35 acres with two producing wells, half interest in another 27-acre tract with three producing wells, and half interest in a 50-acre tract with five producing wells. Of the purchase price $216,000 was for the cost of the wells, and the balance $352,000 was the consideration.

Another wild well was reported in the Conroe Field but it bridged and killed itself. The well was the Humble Oil & Refining Co.'s No. 3 A. Moorehead, in the T. Trevathan Survey. It blew out at 965 feet.

The daily average production of the crater well, Harrison-Abercrombie Oil Co.'s, for the week ending December 21, was 7,500 bbls. It is expected during this week, the relief well which is being drilled by the Humble Oil & Refining Co. and others to attempt to kill the flow of oil from the crater well, will be deep enough to test. It was drilling at 4,950 feet.

Livingston Area

Reports from the Livingston Field were disappointing with two tests being abandoned during the week, both on the west edge of the field indicating that the future producing area of the field will be limited. Harrison & Abercrombie Oil Co.'s No. 2 Carter, which was a half mile west of the nearest other production was abandoned after finding salt water at a total depth of 4,435 feet. This test is the second test drilled on this acreage. Humble Oil & Refining Co.'s No. 6 Grandbury, was also abandoned at a total depth of 4,408 feet. This test is located about a half mile west and a location north of the No. 1 Grandbury.

S. F. Gist Oil Corp.'s No. 1 Kingsbury County, located about 7,400 feet north of the nearest other production in the Livingston Field, was shut down at 4,268 feet, waiting for 7-inch casing. The test is reported to have found a showing of oil and gas at this depth.

The only tests drilling in the Livingston Field at this time are the Polk County Oil Co.'s No. 3 Allen, at 3,285 feet, the Shell Petroleum Corp.'s No. 1 Duff, which has been plugged back from a total depth of 4,587 feet to 4,309 feet, where screen is being set. Humble Oil & Refining Co.'s No. 8 Grandbury, located about 2 miles west of the production at Livingston, was drilling at 2,550 feet.

The Railroad Commission's new proration order effective January 1 at 7 a. m., fixed the allowable of the Gulf Coast at 147,004 bbls. daily. The allowables of the fields not mentioned below remain the same. The following table gives the old and new allowable:

Field—	Old allow.	New allow.
Allen	17	11
Arriola	1,085	885
Barbers Hill	15,450	14,000
Batson	454	580
Buckeye	478	400
Damon Mound	800	750
Fannett	520	500
Goose Creek	2,600	3,000
Greta	7,500	8,500
High Island	6,000	5,000
Hull (old)	3,600	3,700
Hull (new)	4,000	3,000
Humble	3,475	3,500
Spindletop	2,500	3,000
West Columbia	2,580	2,900
Livingston	1,900	1,700
Lost Lake	180	290
Markham	650	850
Nash	20	50
North Dayton	115	150
Orange	650	790
South Liberty	413	470

A Couple of Pipe Liners and a Land Man in Merry Mood

Left to right: W. C. Thomas, superintendent, Lake Charles district, Louisiana, and J. L. Taylor, superintendent, Iowa Field, Louisiana, for Magnolia Pipe Line Co.; and John J. Doyle, head of land department, Lake Charles, La., office, Humble Oil & Refining Co.

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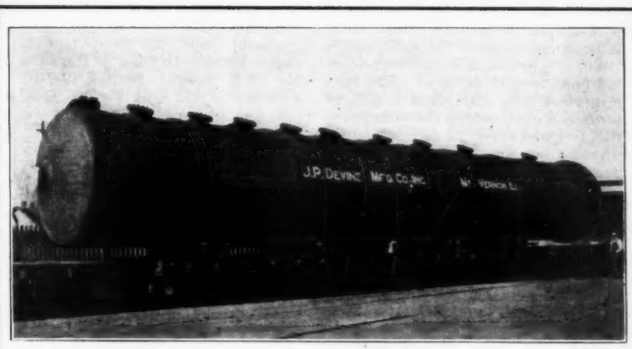

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Haynesville Wildcat Is Most Closely Watched; Eleven New Operations in North Louisiana

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Jan. 2.—Haynesville Partnership's No. 1 Anna Taylor, Section 11-23-8, a deep test outside of the Blossom producing territory of the Haynesville Field, Claiborne Parish, is the most closely watched wildcat in the North Louisiana district at present. Out of several tests in the past few years, after the Blossom production around the 2,800-foot level began to decline, only one test to the upper Trinity horizons gave any indications that these strata would pay off in that area. This well, drilled within the producing area of the field, had a good show of gas and has made considerable oil from a total depth of 4,521 feet.

The present test, more than a mile to the north and east, topped the anhydrites at 4,055 feet and cored 12 feet of Oolitic lime in the Glen Rose of the upper Trinity from 4,300-12 feet. A comparison of the logs of the two tests reveals that the present well is checking about 30 feet higher, indicating almost sure production of either oil or gas. Seven-inch casing has been set at 4,250 feet and a drill stem test will be made in the Oolitic lime, which produces gas of high gasoline content from the 4,400-foot level in the Sugar Creek Field, about 20 miles south of the Haynesville area. The Haynesville Partnership is composed of oil operators and business men of Haynesville and Shreveport who drilled in the discovery well from the Blossom sand in this field.

NORTH LOUISIANA

A total of 11 new operations was reported for the North Louisiana district, consisting of four wildcats in widely separated areas, six new locations staked in the active Converse Field and one in the Zwolle Field. In Avoyelles Parish, in the central part of the State, Haas & Stokes have set 12-inch surface casing at 40 feet on their No. 1 Lindstrum Land Co., Section 34-1n-6e. This test is located on a large block of acreage and will look for the pay on the Conroe-Jackson trend. Welborn, Lawson & Ferguson's No. 1 Madison Oil & Development Co., Section 28-6n-8e, in the northern part of Concordia Parish, is a derrick with arrangements being made to move rig in immediately.

Another wildcat for De Soto Parish, Coker Oil Corp.'s No. 1 Mary Huson, Section 8-12-14, has spudded and set 10-inch surface casing at 8 feet. A block of 10,000 acres has been assembled in this parish north of Mansfield, centering around Section 33-13-13, by Bobby Manzell and Jack Dempsey and operations will begin immediately. In Red River Parish, A. F. Sales has derrick up on his No. 1 Raley in Section 18-13-8.

Caddo Parish

Louana Oil & Gas Co.'s No. 2 Hammock, Section 32-19-16, in the Blanchard Field, Caddo Parish, has set 6-inch casing at 2,720 feet with the bottom of the hole at 2,750 feet. A drill stem test during the past week developed an estimated 15,000,000 feet of gas. John F. Kerper's No. 1 Barron, Section 27-16-14, a wildcat in Caddo Parish that has been shut down for some time, has resumed operations and is in hard lime and shale at 3,543 feet. This test is on a 5,000-acre block with an original contract to go 3,500 feet. R. W. Norton's No. 1-B French, Section 34-23-16, in the deep gas area, Rodessa Field, has set 8-inch casing at 5,095 feet with the top of the anhydrites logged at 4,826 feet.

Converse Field

This district experienced an unusually good report from the completions with a total of six producers and only one dry hole. The Converse Field led in completions with four to the Zwolle area's two, but the latter had much the better in total new production. Pelican Natural Gas Co.'s No. 11 Sabine Lumber Co., Section 7-7-11, on the eastern flank of the Zwolle Field north of Many, was completed with an initial gauged flow of 1,250 bbls. daily from 2,416 feet. Six-inch casing was set at 2,347 feet and the well completed without the use of the customary acid. To the east of this producer, Service Drilling & Royalties Co.'s No. 1-B Smith, Section 7-7-10, was swabbed in last week for 200 bbls. daily, failed to increase its flow and was completed with this gauge from 2,672 feet.

The Converse completions follow: Calatex Oil & Gas Co.'s No. 1 Whiting Corp., Section 4-9-13, swabbing 40 bbls. daily from 1,968 feet and extending the field 1¼ miles to the northwest; Florence Oil Co.'s No. 1 Monroe Crawford, Section 20-9-13, pumping 40 bbls. daily from 1,990 feet; W. F. Lacey's No. 1 J. M. Jackson, Section 10-9-13, swabbing 100 bbls. daily from 1,825 feet, and L. L. Posey's No. 2 A. J. Burkett, Section 10-9-13, flowing 200 bbls. through choke from 1,855 feet. All of the Converse wells with the exception of the latter were treated with acid. One dry hole was reported from this area, the Tex-La-Ark Oil Co.'s No. 3 Bowman-Hicks, Section 23-9-13, dry and abandoned at 2,020 feet.

MISSISSIPPI

The Hinds County area reported one good gasser and one abandoned test which failed to reach the pay horizon. Meredith Trading Co.'s No. 1 Nelson and others, Section 24-6-1e, gauged an open initial flow of 25,308,000 feet of dry gas from 2,515 feet. Lionel Petroleum Co.'s No. 1 Gaddis, Section 7-7-3w, was abandoned at the shallow depth of 1,909 feet after having been shut down and temporarily abandoned for two months. Two new wildcat locations were staked in two different counties. In Greene County, United Gas Public Service Co. is moving in rig on its No. 1 Davis, Section 30-1n-5w. It is not known at this writing what size block has been assembled or the contract depth for the hole. Wagner Oil Co. and Eastman-Gardiner Lumber Co. have derrick pattern on location for No. 1 Gavin School Land, Section 16-9n-7w.

Drilling wells in Mississippi follow: Hinds County, B. B. Jones and others' No. 1 McRea, Section 24-7n-1w, drilling in sandy lime at 3,909 feet, and the same operators' No. 1 Stone, Section 18-5n-3e, drilling in sandy shale at 2,940 feet; Madison County, H. A. Wilson, trustee's No. 1 Copex, Section 24-9-3e, drilling sandy shale 2,750 feet; Newton County, Bob Dalton and others' No. 2 Majures, Section 25-6-11, drilling at 3,060 feet; Rankin County, Cleve Love and others' deep test, No. 1 Thomas, Section 10-4-1e, is drilling in red shale at 4,747 feet; Simpson County, Beavy Corp.'s No. 1 R. J. Beavy, Section 33-2n-4e, drilling at 2,266 feet; Tallahatchie County, R. E. Collins and others' No. 1 Bunton, Section 28-26n-3e, drilling at 2,217 feet, and in Warren County the Orbit Drilling Co.'s No. 1 Parker, Section 14-14-1e, is drilling at 3,416 feet.

ARKANSAS

There is practically no activity in Arkansas with the exception of the area surrounding the Miller County Field near Texarkana. C. E. Murdock's No. 1 Andrew Rose, Section 4-16-26, has all the indications of making a good pumping producer. The well is now standing full of oil, waiting on standard rig at a total depth of 2,941 feet. In this column last week it was stated that Frank W. Rowe's No. 1 Dominick, Section 21-15-26, was waiting on pumping equipment, which was a mistake, and intended for the Murdock well. The Rowe test is drilling at 2,400 feet. Arkanva Oil Corp.'s No. 1 Smith, formerly listed as C. E. Murdock, Section 33-15-26, is drilling at 2,780 feet. Texarkana Oil Corp.'s No. 2 E. L. Beck, Section 33-15-16, is fishing for 12 fourbles of drill stem at 2,860 feet, and Lee Timberlake's No. 1 B. F. Smith in the same section is drilling at 2,200 feet. One new location was reported for this area, Hawkins and others' No. 1 Olivet, Section 4-16-26.

Daily Average Runs

The North Louisiana and Arkansas Fields showed a net increase of 685 bbls. in the daily runs after several weeks of gradual decline. The former showed the greatest increase with 595 bbls. daily. The daily average runs from the several pools were:

NORTH LOUISIANA

Caddo, light	4,575
Caddo, heavy	1,375
Converse	930
Cotton Valley	510
De Soto and Red River	1,325
Elm Grove	340
Haynesville	3,645
Holly	200
Homer	2,590
Pleasant Hill	215
Sarepta-Carterville	835
Urania	3,150
Zwolle	6,405
Total North Louisiana	26,195
Total previous week	25,600
Increase	595

ARKANSAS

Champagnolle	1,305
El Dorado	2,690
Lisbon	410
Miller County	825
Nevada	540
Smackover, light	2,630
Smackover, heavy	20,940
Stephens	650
Urbana	2,460
Total Arkansas	32,290
Total previous week	32,200
Increase	90
Total both States	58,485
Total previous week	57,800
Increase	685

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

AVOYELLES PARISH

Company, well, farm name, section and block— Remarks:

Haas & Stoker's No. 1 Lindstrum Land Co., 690 ft. S, 980 ft. E, NW cor. Sec. 34-1n-6e ..... Set 12-in. 40 ft.

BIENVILLE PARISH

Poole & Johnson's No. 1 H. E. Suddith, 1,170 ft. E and S, C Sec. 28-14-16 ..... Derrick.

BOSSIER PARISH

C. E. Reid, tr.'s No. 1 Dotys, 730 ft. S, 618 ft. W, NE SE Sec. 7-16-11 ..... Coring 2,642 ft.

CADDO PARISH

W. O. Bliss' No. 1 McDade, 330 ft. N and E, SW cor. NW NW Sec. 2-20-15 ..... Rigging up.

CALDWELL PARISH

Hartley et al's No. 1 Taylor, most southeasterly cor. Sec. 42-14-4e ..... Derrick.

Terrell & Price's No. 1 La. Central Lbr. Co., 300 ft. N, 200 ft. W, SE cor. NW NE Sec. 18-11-3e ..... S.D. 1,960 ft.

CATAHOULA PARISH

T. R. Hincey's No. 1 Millsaps, Sec. 32-9-6e ..... Derrick pattern.

CLAIBORNE PARISH

Haynesville Partnership's No. 1 Anna Taylor, 330 ft. N and E, SW cor. SE SW Sec. 11-23-8 ..... Set 7-in. 4,250 ft.

DE SOTO PARISH

Coker Oil Corp.'s No. 1 Huson, 200 ft. S, 500 ft. W, NE cor. NW Sec. 8-12-14 ..... Set 10-in. 80 ft.

Geo. M. LeGrand's No. 1 Faria, 330 ft. S and W, NE cor. SE Sec. 19-11-15 ..... S.D. 2,360 ft.

A. F. Tarver's No. 1 Barnhart, 330 ft. N and W, SE cor. NE Sec. 16-15-13 ..... Coring 2,830 ft.

GRANT PARISH

L. L. Lindsey et al's No. 1 Edenborn, 250 ft. E, 150 ft. N, SW cor. SE SE Sec. 13-7-4 ..... S.D. 925 ft.

NATCHITOCHES PARISH

Geo. R. Stevens' No. 1 Clarke-Boyce Lbr. Co., 330 ft. N and W, SE cor. Sec. 10-5n-6w ..... Drlg. 50 ft.

SABINE PARISH

Frank R. Foster, Inc.'s No. 1 D. E. Stephens, 330 ft. S and E, NW cor. SE NW Sec. 17-9-11 ..... Whipstocking 3,160 ft.

CONVERSE DISTRICT

Arrock Oil Co.'s No. 1 Hewitt, 330 ft. N and E, SW cor. NE SE Sec. 20-9-13 ..... Treating with acid 1,606 ft.

J. F. Anderson's No. 1 Burkett, 135 ft. N, 855 ft. E. SW cor. NW Sec. 10-9-13 ..... W.O.S.R. 1,921 ft.

Nick Barbare's No. 1 Burkett, 500 ft. N, 900 ft. E. SW cor. NW Sec. 10-9-13 ..... T.A. 1,672 ft.

J. W. Bettis et al's No. 1 Frost Lbr. Ind., 330 ft. S and W, NE cor. SW Sec. 15-9-13 ..... Rigging up.

Calatex O. & G. Co.'s No. 1 Whitney Corp., 415 ft. N. 330 ft. E, SW cor. SE Sec. 4-9-13 ..... Comp. swabbing 40 bbls. at 1,968 ft.

A. G. Craig's No. 1 Belton, 330 ft. N and E, SW cor. NW NW Sec. 32-9-13 ..... Drlg. 849 ft.

Florence Oil Co.'s No. 2 Crawford, Sec. 20-9-13 ..... Rigging up.

Florence Oil Co.'s No. 1 Crawford, 330 ft. S and W, C Sec. 20-9-13 ..... Comp. pumping 40 bbls. 1,990 ft.

J. E. Freeman's No. 1 Barr, 990 ft. N and E, SW cor. NW Sec. 15-9-13 ..... Tested dry 1,984 ft.

Alfred Glassell's No. 1 Tatum, 330 ft. N and W, SE cor. NE NW Sec. 9-9-13 ..... Set 10-in. 40 ft.

Gerhig Oil Co.'s No. 1 Burkett, 330 ft. S and W, NE cor. SE SE Sec. 9-9-13 ..... Drlg. 1,777 ft.

(Continued on Page 53)

Thirteen Completions in the Central Ohio Field, One in Kentucky; Gas Wells in Indiana

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Jan. 2.—In the Lima Field of northwestern Ohio, R. M. Bell and others' test on the G. S. Baker farm, Section 1, Troy Township, Wood County, was dry. In Middleton Township, same county, Ohio Oil Co. abandoned Nos. 1, 3, 4, 5, 6 and 7 on the George A. Shoemaker farm, Section 16, and in Lake Township, Lantz, Schulty and others pulled out old No. 1. In Hancock County, Ohio Oil Co. abandoned No. 2 A. Knoke farm, Section 14, Van Buren Township; Nos. 8 and 10 James Decker farm, Section 16, and Nos. 16 and 17 on the McConica-Crosley farm, Section 36, same township.

In Sandusky County, Scott Township, Elic and Edward T. Whalen abandoned No. 6 on the George Zimmerman farm, Section 7, and No. 6 on the George Zimmerman No. 2 farm, same section. Unknown parties are drilling No. 3 on the L. Gerwin farm, Section 3, Woodville Township, same county. The test being made by C. H. Benke on his farm, in Section 35, same township, will be watched with much interest.

In Oregon Township, Lucas County, George E. Mong abandoned No. 4 on the Thomas Garvey farm, Section 30, and No. 7 S. B. Tobias farm, Section 26, same township.

S. H. Curry is drilling on the G. H. and M. E. Kimmett farm, Section 3, Hopewell Township, Seneca County. In Crane Township, Wyandot County, the most active part of the field failed to make any completions the only change was the starting of U. S. Oil & Gas Co.'s second test on the Ella Hilderbrant farm, Section 33, Crane Township. McPherson & Co. are drilling No. 1 Catherine Smalley farm, Section 3, and Keiner and others are drilling No. 3 Gotlieb Seiler farm, Section 34, same township.

CENTRAL OHIO

The Centrar Ohio Field went along with the usual number of completions, regardless of the weather, there being 13 completions, of which 3 were oil with an initial of 51 bbls., 1 dry hole and 9 gas wells.

In Ashland County, Gold Crown Oil & Gas Co.'s No. 8, on the Harry Horn farm, Section 21, Lake Township, which is a gas well. Moore and others are shut down at 275 feet in No. 7 on the George W. Black farm, Lot 34, Mohican Township.

In Medina County, Curtis & Eaken's No. 1, on the Thomas Brown farm, in Chatham Township, showed an initial of 5 bbls., while E. R. Edson and others' No. 38, on the Edward G. Miller farm, same township, produced but 3 bbls.

In Lorain County, National Tube Co. is drilling on its property, in Lot 66, Sheffield Township. Ohio Fuel Gas Co. has a rig in for No. 1 on the Charles H. Opfer farm, Section 4, LaGrange Township.

In Holmes County, H. C. Garver is drilling on the fee farm, Section 17, Richland Township. Lydic Oil & Gas Co. is drilling No. 4 on the William Martin farm, Section 22, Monroe Township.

In Fairfield County, Berne Township, Ohio Fuel Gas Co. has a gas well at a depth of 2,534 feet on the Harvey Shull farm, Section 12.

In Knox County, Upham Gas Co. is drilling on the James Metzger farm, Section 13, Monroe Township. Preston Oil Co. is drilling No. 2 on the A. J. Beatty farm, Section 1, Jackson Township.

In Licking County, Wehrle Gas Co.'s No. 2, on the George W. Kreager farm, Lot 37, Hopewell Township, was dry at 2,974 feet.

In Muskingum County, Pure Oil Co.'s test, on the Emmet Shepard farm, Section 6, Jackson Township, is credited with an initial of 43 bbls. at a total depth of 3,162 feet.

In Stark County, Brendel Producing Co.'s No. 2, on the James H. McDowell farm, Section 16, Plain Township, is a gas well from 4,538-59 feet. Same company is drilling on the Bell Terre Allotment, Section 10.

In Belmont County, Robert Lewis and others' No. 3, on the Sarah E. Douglas farm, Section 32, Warren Township, is a gas well. John P. Deible's No. 1, on the Besse H. Welton farm, Section 15, Union Township, is a gas well at a total depth of 1,088 feet. Ohio Fuel Gas Co.'s No. 2, on the John A. Vogt farm, Section 32, Somerset Township, is a gas well at 1,723 feet. Robert Lewis and others are drilling No. 6 on the Rosalie Johnson farm, Section 27, same township.

In Guernsey County, Wilbur Keith is drilling on the Clark V. Foraker farm, Section 20, Willis Township. J. T. Roach is drilling No. 4 on the Jennie Rose farm, Section 20, Wheeling Township. Preston Oil Co. is drilling No. 6 on the J. O. Alloway farm, same section.

KENTUCKY

Only one completion was reported from the Kentucky fields, Clark Drilling Co.'s test on the S. E. King 47 acres, in the Niagara Pool, in Henderson County, which produced but 5 bbls. initial.

INDIANA

A few completions were reported from the Indiana Field, although a greater number of old producing wells were abandoned. In Gibson County, Joe Young and others brought in a gas well in No. 1 on the M. L. Gaston farm, NE Section 19, Washington Township, at 450 feet, but drilled to a total depth of 1,269 feet with no improvement. There were 12 wells abandoned in Washington and Center Townships, by Ohio Oil Co., and Wabash Public Service Co.

In Pike County, Claude E. Noble and others brought in a nice gas well in No. 3 on the Helen Smith farm, Section 18, Washington Township, while H. H. Risher completed a good gas well in No. 2 on the W. Boger farm, Section 17, same township. H. N. Bell and others are drilling No. 2 on the Thomas Stone farm, Section 20, same township. In Madison Township, Wiser Oil Co. is drilling No. 2 on the R. M. and C. P. Stewart's farm, in Location 20. H. H. Risher abandoned No. 1 John Carter farm, in Clay Township, same county.

ILLINOIS

No completions were reported from the Illinois Field, but a few old wells were abandoned. In Lawrence County, Petty Township, Ohio Oil Co. abandoned No. 7 E. L. Gray farm, SE Section 36; No. 8 on the John W. Bolles No. 2 farm, SE Section 18, and No. 3 on the N. J. Updike farm, NE Section 1, same township. In Dennison Township, same county, John Phipps abandoned Nos. 1 and 2 on the Simon Seed farm, Section 19, Dennison Township, and Silurian Oil Co. abandoned No. 3 H. D. Hinkle farm, same township.

W. C. McBride is drilling a test on the J. Biggs farm, Section 21, Hutton Township, Coles County.

Washington County, Pa., Has 255 Bbl. Well; Several Tests Are Starting in West Virginia

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Jan. 2.—A very fair test was completed in Southwest Pennsylvania during the week which extends an oil pool in East Findley Township, Washington County. On the J. N. Clutter farm, Myers, Hoskinson and others drilled a test originally reported as 1,500,000-foot gas well in the Injun sand at a depth of 1,710-20 feet. As no immediate gas market was available, the well was drilled deeper to the Nineveh 30-foot sand, or a Gordon Stray sand, and found production with a heavy flow of gas. The test produced 255 bbls. the first day and has been producing at that rate for several days.

In this test the top of the Gordon Stray sand was struck at 2,649 feet with gas showing at 2,669 feet. The gas gauged about 877,000 feet a day and the volume increased to about 2,000,000 feet a day as the hole was deepened. At a depth of 2,675 feet, the oil was struck. The volume of gas has dropped slightly but is still in excess of 1,500,000 feet from the lower sand. The Clutter farm is mapped as the John Sprouls farm.

Completions in the East dwindled with the holidays and the severe cold weather. Three producers, with an initial production of 268 bbls., and two gas wells were completed. There were also three dry holes. Several new tests are starting in West Virginia and Pennsylvania.

West Virginia

No new producers were completed in West Virginia. In Sheridan district, Calhoun County, M. F. Crawley drilled his No. 1 on the L. E. Hughes farm deeper to the Injun sand at 1,980 feet and found it dry. It is being plugged back to the Salt sand where it will make a small producer.

In Cabell County, H. H. Baker Gas Co. completed a fair test on the Wolfe and Oppenheim lease in the gas pool in Guyandotte district. It was drilled in the Shale at a depth of 2,764 feet and is showing for nearly 500,000 feet a day.

In Calhoun County, Jesse Mason and others completed a test on the J. K. Ferguson farm in Sheridan district in the Injun sand and it will make a light gas well.

In Boone County the deep test of the Pure Oil Co. on the A. M. Prichard lease in Sherman district proved dry. It was drilled through the shale to a total depth of 4,715 feet. In Monongalia County the Manufacturers Light & Heat Co. drilled its No. 1 on the Henry Yost farm in Battelle district deeper and reached a total depth of 3,600 feet, the Fifth sand. It also proved to be a dry hole.

Drilling in West Virginia

In Lost Run Pool, Clay district, Ritchie County, West Virginia, influenced by the recent fair completion on the Biddie Fox farm, Ralph Roberts is building a rig for a second test on the Sada McGinnis farm, the original test on this farm having proved dry. On the Charles H. Frederick farm, G. B. Hendershot and C. B. Smith have completed their rig for No. 4 about 300 feet north of No. 3. No. 4 is drilling on top of the Injun sand.

Other wells drilling in this pool include R. E. Bills and others' test on the Vincent heirs farm which has reached 2,012 feet; C. F. Vincent & Co.'s No. 4 on the John T. and Ella B. Fox farm, mapped as the Biddie Fox farm, is drilling at 649 feet; and T. J. Davis and others' test on the William R. Kibbie farm is down 1,900 feet, on top of the Injun sand.

In other parts of Ritchie County, additional new work is noted. On the waters of Grass Run in Murphy district, Kelley and Musser are spudding in on the Mace Welch farm. In the same district, and on the waters of Dutchman Run, South Penn Oil Co. has a rig standing for No. 13 on the Haught Lambert farm. In this district, L. U. and L. E. McClure have the material on the ground on the J. A. Gregg farm and Clem S. Morris has completed a rig on the F. B. Strothers farm. A. R. Kelley has reached 500 feet on the C. W. Parks farm and Dr. S. M. Prunty and others are drilling at 1,500 feet on the M. L. Bollinger farm. In this district, R. C. Jackson and others are drilling at 400 feet on the D. Givens lease and Ira Roberts and others have rigged up on the W. T. Baker farm. In Grant district, Griffin Producing Co. is down 750 feet on the C. B. McVay farm and Lucas and Mahaney are drilling at 1,050 feet in a second test on the Van Martin farm. In Union district, Carnegie Natural Gas Co. has the material on the A. H. Tate farm. In Clay district, away from the Lost Run Pool, this company has the material on the ground for No. 3 on the M. H. Jones farm.

Cabell County

In McComas district, Cabell County, West Virginia Gas Corp. is building a rig on the Halsey Hensley farm. In Guyandotte district, the following wells

(Continued on Page 70)

Wildcats in New Mexico Getting Under Way; Overland Dome, Wyo., Test Proves Producer

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Jan. 2.—There was no change in Hobbs Pool allowable outlet for the last half of December. The Texas Co. is starting a wildcat in the Pearl area in Lea County, New Mexico and two other Lea County wildcats are getting under way. Two new locations were reported in Eddy County, one in the Brainard Pool and the other in the Jackson area. Warren L. Todd's No. 1 Levers, in southern Eddy County, was plugged and abandoned. Stovall & Marshall's No. 1 Mock, in the Black River district, had 350 feet of oil in the hole when the test was temporarily plugged to adjust titles. The Etz wildcat in Chaves County had a show of oil in the top of the brown lime.

Production quotas for Colorado, Wyoming and Montana were increased slightly for January, February and March.

A test at the north end of the Greasewood Pool in northeastern Colorado has cellar completed. The Rocky Mountain Gas Co. has a near completion on the Craig Dome in Moffat County. Colorado reported no new locations.

The Earl W. Reeder well on the Overland Dome in Wyoming indicated in a test of the Mowry shale that it would make from 200 to 500 bbls. per day from that formation. Drilling operations in the Osage Field are slowing down until spring with only one well active. Goshen Hole test promises to be an important wildcat.

Cold weather delayed Montana operations and only one well was completed in the Cut Bank Field. It has not been tested. There were no new locations. Wells in the Pondera Field are reported responding favorably to acid treatments.

Three shallow wells were abandoned in San Juan County, Utah, and one new operation was reported in Washington County.

The Boise Petroleum Co.'s test in Payette County, Idaho, was abandoned at 2,500 feet.

NEW MEXICO

Lea County

There were no changes in pipe line nominations for purchases from the Hobbs Pool for the last half of December and allowable outlet remained the same as in the first half at 33,473 bbls. daily. This is distributed as follows: Shell Pipe Line Co., 18,000 bbls.; Humble Oil & Refining Co., 9,630 bbls.; Atlantic Pipe Line Co., 4,500 bbls., and the Texas Co., 1,343 bbls. There are no wells drilling in the Hobbs Pool at the close of the year.

The Texas Co. is building road to location for a test to be drilled in the Pearl area in its No. 1 J. S. Lee, SW cor. NW Section 14-20-34. This location is 3 miles to the north of the producers in the Lynch Pool and 3 miles east of Henderson, Dexter & Blair's No. 1 Lockhart, SE cor. Section 18-20-34, a producer, and 2 miles southeast of the Texas Co.'s No. 1 Jackson, SE cor. Section 4-20-34, which was abandoned at 4,031 feet in 1927. The company has 7,680 acres in the block.

The Texas Co.'s No. 2-B Lynch, C SE SW Section 27-20-34, north of the Lynch Pool, has rig completed. It is half a mile east of Marland Oil Co.'s No. 1 Flint, abandoned at 3,750 feet in 1929.

The Texas Co.'s No. 4-A State, C Lot 7, Section 2-21-33, Lea Pool, is drilling at 1,000 feet in red shale. The 12½-inch was cemented at 155 feet with 55 sacks.

The Gypsy Oil Co.'s No. 1 La Munyon, C NE NE Section 28-23-37, Cooper area, is spudding at 85 feet in sand. This is on a full permit of 2,560 acres.

Humble Oil & Refining Co.'s No. 3-A Lindley, C NW SW Section 13-25-36, Jal area, plugged back from 3,410 feet to 3,359 feet and is preparing to test. Total depth is 3,510 feet. It tested almost all water below 3,410 feet. Western-Anton's No. 1 Conditt, C SW SW Section 12-25-36, has cemented the cellar and the flow of gas estimated at 50,000,000 feet per day, has been decreased to around 2,000,000 feet through the 6⅝-inch. Efforts to get the 2½-inch tubing below 850 feet have so far not been successful. Southern Petroleum Exploration Co.'s No. 1 Ascrate, C NE NW Section 24-25-36, is drilling at 2,911 feet in anhydrite and lime. The 9⅝-inch was cemented at 2,816 feet with 450 sacks. It had a show of oil and gas at 2,840 feet.

Santa Fe County

Elmer Fisher's No. 1 Hill, Section 6-10n-7e, Barton district, is reported drilling below 1,050 feet in very hard gray lime. C. C. Owens and others' No. 1 Cantwell, NW cor. Section 5-10n-9e, near Stanley, is running the 15½-inch at a total depth of 250 feet.

Eddy County

A new operation in the Compton, or Brainard Pool, in the Artesia area is R. D. Compton's No. 6 Brainard, SE cor. Section 5-18-27, which is rigged and ready to spud. Flynn, Welch & Yates' No. 67 State, C SW NW Section 10-19-28, is drilling at 1,450 feet, and the Pecos Valley Gas Co.'s No. 8 Vandagriff, NE cor. Section 5-17-28, is drilling at 1,300 feet and looking for the gas horizon at 1,380 feet.

A new operation in the Jackson area is Leonard & Barnsdall's No. 1 State, SW cor. Section 21-17-29, which spudded on December 13 and is drilling at 645 feet in salt. It topped the salt at 408 feet. Western Drilling Co.'s No. 2-A Green, C SW NE Section 29-17-29, which had 350 feet of oil in the hole at 2,840 feet after a small shot, was shot again with 40 quarts at 2,753-59 feet and 60 quarts at 2,785-98 feet and is cleaning out to run tubing and test.

Warren L. Todd's No. 1 Levers, C SE SE Section 25-26-29, South Eddy County, suspended drilling at 3,096 feet in sand and was plugged and abandoned. It topped the Delaware lime at 3,075 feet and the sandy lime at 3,060 feet. The top of the Delaware sand was at 3,076 feet. It made two bailersful of water per hour at 3,087-96 feet. The elevation is 2,902 feet.

Ralph Spearow and others' No. 1 McClelland, SW NW NE Section 22-22-23, Indian Creek district, western Eddy County, is drilling at 4,636 feet in black lime. Pecos Valley Drilling Co.'s No. 1 McIntyre, NW NW Section 27-23-25, Dark Canon district, is drilling at 1,902 feet. R. D. Compton's No. 6 State, SW NE SW Section 15-16-23, upper Cottonwood district, is shut down at 675 feet. Stovall & Marshall's No. 1 Mock, C SE SE Section 29-24-27, Black River district, was drilled to 2,338 feet, at which depth 350 feet of oil rose in the hole in 96 hours. It was then plugged back to 2,260 feet and mudded and temporarily abandoned until titles are adjusted. The Black River anticline is in southern Eddy County and a test drilled on it several years ago to 3,096 feet had shows of oil and gas.

Chaves County

George Etz and others' No. 1 Etz, C SE NE Section 14-8s-26, Railroad Mountain district, 24 miles northeast of Roswell, is at an interesting depth and is attracting attention. It topped the brown lime at 1,806 feet, where it had a show of oil and gas, and is drilling in that formation at 1,824 feet. This test is reported checking 200 feet higher than a well drilled 3½ miles to the east which showed oil in the top of the San Andres (Permian) limestone, followed by salt water. This horizon is expected in the Etz well within the next 100 feet.

COLORADO

W. H. Ferguson, chairman of the general committee for Region 5, has been advised by Oil Administrator Harold L. Ickes that the quotas for the Rocky Mountain states for January, February and March will be 2,300 bbls. daily for Colorado; 29,000 bbls. for Wyoming and 6,800 bbls. for Montana. This is a total of 38,100 bbls. daily, which compares with 36,300 bbls. for December and 38,950 bbls. daily prior to December 1. The increase over December quota allowed 64 bbls. to Colorado, 994 bbls. to Wyoming and 742 bbls. to Montana. The matter of adjusting the quotas for the Rocky Mountain states to the special conditions prevailing here is still under consideration and it is probable that the administrator will recognize in some form the requirements of the refiners in anticipation of the summer demand for petroleum products. Unless the refiners are permitted to purchase crude during the winter season in anticipation of next summer's requirements, the prospects are that there will be a shortage. This will arise from local fields adjacent to the numerous small refineries being unable to supply enough crude from current runs during the summer to meet the requirements of the refiners.

Weld County

A test in the north end of the Greasewood Pool in Weld County is scheduled for the new year in Shaffer, Kirchoff and others' No. 1 Niles, SW cor. Section 12-6n-61, 1 mile north and slightly west of the Continental Oil Co.'s No. 1 Briggs, the best producer and the most northerly of the three wells on production in the field. Cellar has been completed and slush pits are being dug. It is understood that the Continental Oil Co. will furnish the rig, pipe and gas for fuel from the Briggs well. Frank Kirchoff, president of the American National Bank, of Denver, owns a large block on the north and northwest of the new location and will aid in drilling the well under a working agreement. The Shaffer Brothers drilled the discovery well in the field several years ago. It is planned to use rotary equipment to the top of the Muddy and to drill in with cable tools.

Moffat County

The Texas Co.'s No. 5 Parkinson, NW SW Section 23-4n-92, Iles Dome, is drilling at 1,228 feet, and the Stanolind Oil & Gas Co.'s No. 21-X, NE SW NW Section 23-4n-92, a west offset to the 1,100-bbl. well recently completed by the Texas Co., is spudding and preparing to set the conductor pipe at 96 feet. The Olson Drilling Co. has the Texas contract and the Noble Drilling Co. the Stanolind contract. Both are rotary operations.

The Rocky Mountain Gas Co.'s No. 2 Rogenschultz, SE cor. Section 9-6n-91, Craig Dome, is drilling out plug after cementing the 6⅝-inch on top of the gas sand at 2,706 feet. The location is 445 feet southeast of the discovery well which made 11,000,000 feet per day initial from the top of the sand at 2,800 feet.

Boulder County

Consolidated Smelting & Metals Co.'s No. 1 Blubaugh, SE cor. Section 20-3n-70, Lyons district, is resuming at 1,190 feet after again mudding the 3-inch tubing. The water was shut off, but gas pressure forced the pipe up the hole and let the water in, necessitating another shutoff job.

Jackson County

C. Leonard Smith and others' No. 1 North Park Coal, NW NW Section 18-9n-78, North McCallum Dome, was delayed in spudding and is waiting for pipe. It will go to a shallow sand expected at 600 feet.

IDAHO

The Boise Petroleum Co.'s No. 1 Pence, SE NE SW Section 13-8n-4w, Payette County, has suspended drilling at 2,500 feet. The rig pulled in while casing was being pulled.

WYOMING

Carbon County

Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, one of the most important wildcats drilling in Wyoming, is bottomed at 3,735 feet and cleaning out to lower the 6⅝-inch which is now at 3,200 feet. It topped the Mowry shale at 3,565 feet and in the shale encountered a good show of oil. While swabbing, it made a flow of 20 bbls. of 40 gravity oil and slopped over several times. This test indicated that the well might be good for 200 to 500 bbls. per day from the shale, the hole not yet being in sand. However, the hole was caving badly and it was decided to pull the 6-inch and go back and cement the 8¼-inch. The hole was filled with mud to facilitate the cementing job and the 8¼-inch was set at 2,814 feet. Then it was found that the mud had congealed and was harder drilling than the original shale. The 6⅝-inch is now believed to be below the worst of the cavey ground and that within 10 days or more it will be landed on bottom. The next objective, the Dakota series, is expected at around 4,000 feet.

Ohio Oil Co.'s No. 1 A. J. Hazlett, NE NW Section 34-23-79, Allen Lake, a gas well in the Morrison being deepened to the Tensleep, is drilling at 2,640 feet in the Chugwater formation. The top of the objective is expected at around 3,000 feet.

Petroleum Exploration Co. of California's No. 2, SW Section 29-23-88, Buck Spring Dome, is drilling at 300 feet.

Sublet County

Corder Oil Co.'s No. 1, SW cor. NE Section 9-29-113, Dry Piney, is fishing for tools at 2,760 (cor.) feet.

Big Horn County

Torchlight Oil Corp.'s No. 1, Lot 8, Section 19-51-92, Torchlight Field, failed to get a water shutoff with packer at

4,050 feet and has plugged back to 4,020 feet. Total depth is 4,068 feet. It had a saturated oil sand at 4,004-50 feet, followed by sulphur water at 4,068 feet. The saturation was found in the Madison lime. Taylor Oil Co.'s No. 1 Island, Lot 5, Section 25-56-97, Byron district, is standing after cementing the 12½-inch at 2,176 feet.

Natrona County

Midway Oil Corp.'s No. 1 Boyer, SW NE NE Section 23-35-79, Midway Dome, is shut down for drill stem at 4,680 feet.

Niobrara County

Interstate Oil & Refining Co.'s No. 1 Morrell, NW NE SE Section 2-39-61, West Mule Creek, is drilling at 2,350 feet and is estimated to be about 50 feet off the objective sand at the base of the Minnelusa. It had a show for 1,500,000 feet of gas at 2,245 feet.

Weston County

Drilling operations in the Osage Field are slowing down for the winter and only one well is active. This is the Weston Oil Trust's No. 3, NW SE NW Section 23-46-64, which set the 6⅝-inch on top of the sand at 1,922 feet and shut down to await the arrival of the owners. It is gassing impressively, and looks as if it will make a good well. The excessively warm weather for the past two months has caused the demand for Osage crude to hold up unusually well. The oil is trucked from the field to a number of refineries within a radius of 50 miles. Most of the crude is being sold at a premium over posted price.

Crook County

Dr. B. R. Kinter's No. 1 Rockford-Wyoming, NE SE Section 13-52-62, Rocky Ford district, reamed the hole to bottom at 450 feet and reran the 8¼-inch and is drilling ahead at 475 feet. It has a show of oil and gas at this depth. The oil is reported to be a better grade than the crude found at around 300 feet, the horizon from which shallow wells produced a few barrels daily. This operation is headed for the granite to test all possible horizons.

Goshen County

Joyce Hardy and others' No. 1 Peterson, SW cor. Section 21-22-63, Goshen Hole district, is building new derrick to replace a 122-foot derrick which blew down in a windstorm, and it probably will be early in January before it is ready to spud. This operation promises to attract considerable attention and will be watched with much interest. The Goshen Hole district has been looked upon with favor by a number of geologists for many years, but on account of its great size and covering there has been considerable difficulty in locating the geological high. Extensive work has been undertaken in the district in the past three years including surface geology, coredrilling and magnetometer surveys. The critical difficulty was in locating a closure on the north. Dr. Erick M. Schlaikjer, of Harvard University, head of the Harvard Paleontological Expedition, and Dr. Harold Cook, of Agate, Neb., who have made extensive explorations for fossils in that region during the past three summers, discovered a block fault 1 to 3 miles wide, which was traced through for 15 miles, that definitely proved a closure on the north. This fault block parallels the Hartville uplift through the west escarpment of the structure and discloses a displacement of more than 700 feet. The formations slope eastward towards the Black Hills uplift and there is considerable thinning of some of the beds. The Pierre shale, for example, has a thickness of 1,000 feet near the Black Hills, and around 5,500 feet in the Denver Basin. The drainage area is immense.

The interests preparing to make the test have a block of 40,000 acres. They will drill with cable tools and expect to land the 8¼-inch at 4,000 feet. The 6⅝-inch will be carried to at least 6,500 feet if necessary, but it is believed that the test will not have to go that deep. The identity of the parties financing the operation has not been disclosed, but indications point to them being capable of making a thorough test. Frank F. Carpenter, of Denver, has the contract.

MONTANA

Glacier County

Cold weather continued to delay operations in the Cut Bank Field and with the holidays intervening, not much progress was reported. One well was completed in the Commonwealth Petroleum Co.'s No. 1 Getty, C NE SW Section 15-34-6w, on the west side of the field inside the Blackfeet Indian Reservation. It was drilled to the top of the Ellis at 2,982 feet, and topped the lower Cut Bank sand at 2,965 feet. Oil rose 400 feet in the hole over night and the next day 37 bbls. were bailed out. The well then shut down for the holidays. There were no new locations.

The Alberta-Pacific Consolidated Oil Co.'s No. 3 Kiesel, NW cor. Section 11-34-6w, is shut down for rotary at 143 feet, and its No. 3 Matson, SW NW SW Section 14-34-6w, is drilling at 1,980 feet. A. B. Cobb's No. 2 Walburger, C NW SE Section 35-35-6w, is rigging up, and Dunstall and others' No. 1 Kennerly, C NE NW Section 22-34-6w, is spudding at 100 feet. R. C. Jeffries' No. 1 Clark, C SW SW Section 3-34-6w, is shut down at 300 feet on account of the weather, and the Montana Headlight Oil Co.'s No. 2 Williams, C NE NE Section 11-34-6w, is shut down at 580 feet.

The Montana Power Co.'s No. 1 Seeba, NE cor. NW Section 2-34-6w, is fishing for tools at 2,775 feet, and Nadeau Brothers' No. 1 Van de Mar, C SE NW Section 35-35-6w, is drilling at 2,260 feet. The Olive Oil Co.'s No. 1 Winkler, C NW NW Section 35-35-6w, has resumed after cementing the 12½-inch at 570 feet with 50 sacks. The Par Oil Co.'s No. 2 Haines, SE cor. SW Section 2-34-6w, is bottomed at 2,710 feet and running the 8⅝-inch to 2,250 feet.

The Santa Rita Oil & Gas Co.'s No. 2 Cardwell, SE cor. Section 15-35-6w, is straightening crooked hole at 280 feet, and its No. 3 Tribal, C NW NW Section 15-35-6w, is preparing to replace burned rig with rig from Crumley's No. 1 Weaver. Same company's No. 3 Yunck, C SE SW Section 14-34-6w, is shut down at 400 feet on account of the storm.

R. C. Tarrant's No. 2 Britton, SW NW SE Section 14-34-6w, is shut down at 2,917 feet after recementing the 6¼-inch. His No. 2 Haglund, Sr., C NW NW Section 13-34-6w, is bottomed at 2,450 feet with the tools in the hole and a hole full of water. The water broke in behind the 10¾-inch at 495 feet and the rig may be skidded. Tarrant's No. 1 Winkler, C SW SW Section 23-35-6w, is shut down at 2,630 feet on account of the storm.

The Texas Co.'s No. 1 Haggerty, SE cor. Section 9-34-6w, is drilling at 2,316 feet, and its No. 1 Purdy, SE cor. SW Section 35-35-6w, is standing cemented at 1,209 feet. Same company's No. 1 Yunck, C NW SW Section 14-35-6w, is standing rigged at 160 feet, and its No. 1 State, C NE Section 16-32-5w, South Cut Bank, is fishing for tools at 2,815 feet.

Fergus County

S. W. Pennock and others' No. 1 Nordheim, Section 6-21-18, Scharf district, is shut down at 300 feet on account of the storm.

Petroleum County

Guy Smith and others' No. 1-A, SE cor. Section 3-13-26, Flatwillow district, is shut down for boiler repairs at 1,710 feet.

Gallatin County

Ben W. Ryan's No. 1 Tice, NE cor. Section 28-1n-2e, Three Forks district, is drilling at 995 feet.

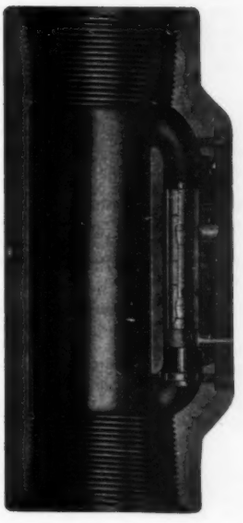
Big Horn County

The Enterprise Oil Co. and Embar Drilling Co.'s No. 2 Lynde, SW cor. SE Section 21-6s-35, Lodge Grass district, is reported to have a show of oil and about

Typical example of results obtained by installation of

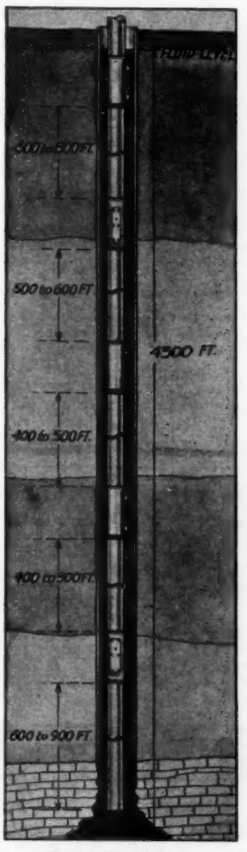
BRYAN FLOW VALVES

Hall & Briscoe Stigall No. 1 well, Oklahoma City Field. Gas used in this well purchased at 6 cents per 1,000 feet. Cost for producing 28,000 bbls., 1¼c per bbl. Total depth 6485 ft.; 6 Bryan Flow Valves used; 3" tubing 6200; 9" casing 6295 flowing through casing.



GAS OIL RATIO

Input 182 ft. per bbl. Output 253 ft. per bbl. Kick-off pressure 400 lbs. Flowing pressure 400 to 500 lbs.



Showing Installation of Bryan Flow Valves

BRYAN FLOW VALVE
Full Patent Protection
Patents
1927081, 1840694

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1,000,000 feet of gas below 3,567 feet, at which depth the 5⅞-inch was set before the operation shut down last fall. Drilling was resumed two weeks ago.

Pondera County

The Texas Co. is treating some of its wells in the Pondera Field with acid and is meeting with some success in reviving production. The pay here is in a lime formation which yields more readily to treatment than the sands in the Sunburst Field where the process was not so successful.

UTAH

The Utah Southern Oil Co. has completed a magnotometer survey of the Salt Valley and Cisco areas in Grand County and is now studying the data to determine whether it will carry on additional development work. Two years ago it drilled its No. 1 Balsey, C NE NE Section 31-23-21, to 6,120 feet and stopped in shale after cutting thick beds of salt. It showed for about 15 bbls. of oil per day at 2,300 feet.

San Juan County

W. E. Neville's No. 7 Government, C NE SE Section 7-42-19, Mexican Hat district, was plugged and abandoned at 215 feet. It had a show of gas. The Desert Petroleum Co.'s No. 1, Section 34-29½-20, Gibson Dome, was plugged and abandoned at 520 feet, and the Western States Development Co.'s No. 1, C SW SW Section 34-29-20, was plugged and abandoned at 323 feet.

Washington County

An operation not heretofore reported is the Whitethrone Oil Co.'s No. 11 Diamond, SW NE SE Section 14-41-11, Virgin district, which spudded to 20 feet last September and shut down to adjust titles.

The Virgin Dome Oil Co.'s No. 1, NW cor. Section 16-42-14, Harrisburg district, is drilling below 3,000 feet, and making a little water coming from below 2,910 feet. The Arrowhead Petroleum Co.'s No. 1-A, SE SW NE Section 1-43-15, Punchbowl district, is drilling at 800 feet in lime, and the Escalante Exploration Co.'s No. 2, NW cor. NE Section 19-43-15, Bloomington district, is drilling at 3,850 feet in hard Siliceous lime.

GAS RATE NEGOTIATIONS

EDMONTON, Alberta, Jan. 2. — The Edmonton city commissioners were last week authorized to reopen negotiations with Northwestern Utilities, Ltd., with a view to securing a revision of the natural gas rates for the city.

Fair Showings Encountered Recently in Two British Columbia Operations

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Jan. 2. — Fair showings encountered recently in two different areas of southern British Columbia have served to encourage further drilling operations. In the Sage Creek district, southeastern British Columbia, a deep test started last June by Columbia Oils, Ltd., of Vancouver has been making slow but steady progress. The work is in charge of George W. Brake, formerly associated with the International Petroleum Co.'s development work in Peru. At last reports Columbia Oils' No. 1 was drilling below 1,525 feet with a 10-inch hole in good condition.

At this depth the test has passed through three oil horizons. The first, between 134 and 160 feet, showed an oil sand with an estimated potential production of from 15 to 25 bbls. a day. Smaller shows were encountered at 1,125 and 1,370 feet. The well is apparently logging somewhat higher than a previous deep test in the same area drilled some years ago by Crow's Nest-Glacier Oil Co. and which got strong oil shows at 3,260 feet.

Fraser Valley Gas Test

In the Fraser Valley, Noble Francis Syndicate's No. 1 on the Mrs. John McGachie farm, Bose Road, south of New Westminster, is at 900 feet preparing to run casing, after striking a fair gas flow at around 820 feet. Gas shows were met at 135 feet, 270 feet and 680 feet, with smaller shows at intervals. The flow at 820 feet is the largest and is estimated around 80,000 feet.

British Columbia Prospects

A number of areas in British Columbia have been at various times tested for oil and gas. The most extensive and deepest drilling has been done in the Fraser Valley. Conditions are thought similar to those in the northern part of the state of Washington, where gas in considerable quantities has recently been encountered at shallow depth not far south of the British Columbia boundary.

The Fraser Valley area is close to New Westminster and Vancouver which would probably afford ready markets. Refineries located at Vancouver would also absorb considerable crude if developed. Vancouver interests which were active some years ago in drilling in the Turner Valley Field, have spent considerable money drilling in Fraser Valley.

The first test drilled at Steveston in 1906 was abandoned at 1,200 feet after a small gas flow with 88 pounds pressure was met at 860 feet in shale. More extensive drilling was carried on after 1913. A deep test by Pitt Meadows Oil Wells, Ltd., in the tidal area a mile northeast of Sheridan Hill went through 1,047 feet of unconsolidated surface deposits, and encountered salt water containing paraffin base oil at 1,148 feet and an oily substance at 1,855 feet, as well as some gas. Port Haney Oil Fields Co., drilling 3 miles east of Port Haney, encountered two shows of shallow gas. Spartan Oil Co. drilled on acreage 3 miles east of Vancouver city limits, encountering small shows of oil and gas. A deep test by Boundary Bay Oil Co. on the tidal flats at Boundary Bay was abandoned at 4,117 feet and got small shows but no commercial production. Empire Oil & Natural Gas Co. carried its test to below 5,700 feet, establishing a depth record for Canada at the time; and it is claimed got a fair production of gas at shallow depth but merely traces of oil in the deeper drilling.

The deep tests indicated a prospect that commercial gas production might be developed at shallow depth. In recent years some drilling has been undertaken with this objective. International Pipe Lines put down four tests on Lulu Island, near Steveston, getting gas flows between 820 and 920 feet; but the wells sanded up. A test by the same company in Section 22-19-ECM in the Sumas Prairie area was abandoned at 250 feet and a second left unfinished at 340 feet. Sumas Oil Co. drilled an unsuccessful test in the same area, and Lancashire Oils' No. 1 has been standing at 800 feet for some months.

Seepages of oil and gas have been reported at various points in the Fraser Valley; and shallow wells near Abbotsford have been supplying individual houses for some years. B. A.-Alberta Oils' No. 1, SE Section 20-16-ECM, in this area, is an unfinished test. Natural Gas Development Co. of Vancouver has a location for its No. 1 test in Section 34-3-WCM in the Boundary Bay area.

Flathead Valley Prospects

In the Flathead Valley, southeastern British Columbia, drilling has been carried on intermittently for more than 20 years. This district is noted for seepages of light crude oil on Sage and Kishinena Creeks, tributaries of Flathead River. An extensive acreage is under lease to the Amalgamated Oil Co. of Vancouver, while drilling has been carried on by Crow's Nest Oil & Gas Co. and by Crow's Nest-Glacier Oil Co. At present the area is being drilled by Columbia Oils, Ltd. The earlier tests encountered some light crude, approximating commercial production, at a depth of more than 3,000 feet, but owing to drilling difficulties the wells were abandoned. The Cretaceous where the oil apparently originates is thought to lie below a pre-Cambrian overthrust.

Graham Island Drilling

On the west coast of Graham Island, surface indications of asphaltic crude were discovered some years ago. At Otard Bay, drilling was started by McPhail & Stewart, and a test was also reported near Tian Bay. Later some 30 locations were filed on acreage from Skidegate Inlet north to Lawn Hill, by W. A. Lewthwaite and Andrew Wright of Victoria, British Columbia. A shallow test was put down on the beach without result. Geological opinion on the whole has been unfavorable to the Graham Island area.

Other British Columbia Areas

Several isolated areas in British Columbia have at various times attracted attention. A test by Okanagan Oil & Gas Co. in Section 2-26-Osoyoos Survey, near Kelowna, has been carried to 2,725 feet encountering small shows of oil and gas, but is shut down. On the Australian ranch near Cariboo, a test by the Cariboo Oil Co. some years ago reported a promising oil strike, which caused widespread leasing in the Quesnel area. Drilling was continued to 1,600 feet without developing further shows, and the operations have been shut down for several years. A test by Pacific Petrol, Ltd., on the Tobacco Plains area near Dorr is standing at 820 feet.

Some surface prospecting has been done in Northern British Columbia. Interests associated with the Anglo-Persian Oil Co. some years ago made a proposition to lease the Peace River block in the northeastern section. The provincial government instead undertook to test the area itself, but no commercial production was secured in the one test. An oil prospect of uncertain value has also been reported in the Cassiar district.

Some 10 years ago oil leases were staked for 50 miles up the Kispiox and Skeena Valleys from Hazleton. While no definite seepages are known in this area, there is a large area of sedimentary rocks, mostly of the Skeena and Hazleton formations, between Hazleton and the Groundhog coal field.

South Turner Valley

In the South Turner Valley area, Sterling Royalties' No. 1, LSD 1, Section 33-18-2w5, is maintaining a steady naphtha recovery between 350 and 400 bbls. a day from a flow of 35,000,000 feet of wet gas. In Section 28-18-2w5, Becker Syndicate's No. 2 Anaconda, LSD 15, is drilling close to the second porous horizon of the lime with some increase in wet gas production and pressure. In the same section, Pacalta Oils' No. 1, LSD 7, is making new hole after cementing 10-inch casing at 3,230 feet. Spooner Oils' No. 5 Anaconda, LSD 1, is making new hole below 2,600 feet after setting 13⅜-inch casing at 2,558 feet. Mar-Jon Oil Co.'s No. 2 Kindersley, LSD 10, is standing at 4,695 feet after running 400 feet of 15-inch casing to overcome trouble with surface pipe. Century Royalties' No. 1, LSD 14, is held up by weather. Sunburst-Mid Royal's No. 1, same LSD, is shut down at 1,630 feet but is to resume in the new year. Publix Oil & Gas Co.'s No. 1, LSD 8, is around 1,300 feet with 13⅜-inch hole after running 16-inch casing. East of this section, Calgary & Edmonton's No. 1 Longview is drilling below 2,811 feet. Associated Royalties' No. 1 Spray, LSD 9, Section 5-19-2w5, is preparing to resume drilling at 3,250 feet.

In the far south end, Union Drilling Co.'s No. 1, LSD 8, Section 21-18-2w5, is shut down at 2,758 feet after finishing a water well. Highwood-Sarcee Oils' No. 1, NE same section, is drilling below 3,330 feet.

In the Central Turner Valley, Okalta Oils' No. 4, LSD 8, Section 1-30-2w5, at 2,800 feet is straightening a crooked hole.

An important new test which may extend the producing area of the Turner Valley Field is being planned by Calgary interests for the far south end. Location will be in LSD 14, Section 21-18-2w5, about a quarter mile west of Highwood-Sarcee Oils' No. 1, and somewhat north and east of Union Drilling Co.'s No. 1.

New Leasing Regulation

Under a new regulation of the lands and mines department of the province of Alberta, provincial oil and gas leases are

(Continued on Page 70)

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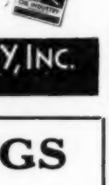

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Minneapolis Men Plan to Test Mendota Dome

MINNEAPOLIS, Minn., Jan. 2.—Seeking oil, two Minneapolis men have made final plans for drilling wells near Mendota in hopes the area may become an oil field of commercial value, according to the Minneapolis Star.

After working for more than four months, studying geological formations of the area and securing 130 leases for some 5,000 acres, P. H. Lund, president of the P. H. Lund Engineering Co., and E. L. Gunberg, Minneapolis broker, are "all set to sink our first well."

"We will have the first well sunk to the closest level on which we expect to find oil in 90 days," Mr. Gunberg said. "The derrick will be up in two weeks."

Mr. Lund interested Mr. Gunberg in the project. He showed Mr. Gunberg a state geological report made by Horace Winchell when he was state geologist 40 years ago. Among other things, the report showed several geological domes in the State which were favorable to the accumulation of oil and gas. The Mendota dome is considered by Mr. Lund to be the most valuable.

Mr. Gunberg had a number of samples of surface dirt and water from the district tested. These tests showed the land to be saturated with petroleum, he said.

"There are six different levels on which we hope to find oil," Mr. Gunberg explained. "The first is at 800 feet; the second, 1,900 feet; the third, 2,375 feet; the fourth, 2,875 feet; the fifth, 2,895 feet, and the last, 2,925 feet. We intend to drill to all levels."

All leases hold for 10 years and entitle the landowner to 12½ per cent of all oil and gas produced. The first well will cost between $40,000 and $50,000, he said.

LION OIL AGREEMENT

Lion Oil Refining Co., of El Dorado, Ark., has recently entered into a license agreement with Gasoline Products Co., Inc., to cover a cracking installation of its own design. The new cracking installation takes the place of the Burton stills heretofore operated. On the Burton still operations, Lion Oil Refining Co. has been a licensee of Standard Oil Co. (Indiana) for a number of years.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 48)

Helena O. & G. Co.'s No. 1 E. L. Graham, 330 ft. N and W, SE cor. NE NW Sec. 20-9-13 ..... S.D. 1,480 ft.
Helena O. & G. Co.'s No. 2 Chambliss, 330 ft. S and E, NW cor. SW NE Sec. 20-9-13 ..... W.O.S.R. 1,955 ft.
Helena O. & G. Co.'s No. 1 E. K. Harris, 990 ft. S and W, C Sec. 10-9-13 ..... Fishing 1,955 ft.
R. P. Holland's No. 1 Harris, 587 ft. N, 530 ft. E, SW cor. SE NW Sec. 10-9-13 ..... Reaming 1,440 ft.
R. P. Holland et al's No. 1 A. J. Burkett, 990 ft. N, 330 ft. W of C, Sec. 10-9-13 ..... W.O.S.R. 1,850 ft.
W. F. Lacey's No. 1 Jackson, 196 ft. N, 804 ft. W, SE cor. NW NW Sec. 10-9-13 ..... Comp. swabbing 100 bbls. 1,825 ft.
Miles & Strickland's No. 1 Ross & Son, 150 ft. N, 900 ft. E, SW cor. NW Sec. 10-9-13 ..... Using acid 1,907 ft.
John W. Moffett's No. 1 Logan Oil Co., Sec. 3-9-13.... Using acid 1,985 ft.
Geo. W. Pace's No. 1 Quinn, 600 ft. E, 180 ft. S, NW cor. Sec. 10-9-13 ..... Set 10-in. 40 ft.; drlg. 1,400 ft.
L. L. Posey's No. 2 Burkett, 330 ft. N and E, SW cor. NE NW Sec. 10-9-13 ..... Comp. flowing 200 bbls. 1,855 ft.
Dr. C. R. Reed's No. 1 Allen, 495 ft. S, 600 ft. E, NW cor. Sec. 10-9-13 ..... Drlg. 1,374 ft.
J. D. Reynolds' No. 1 Paul est., 291 ft. N, 738 ft. W, SE cor. SW NE Sec. 9-9-13 ..... Set 10-in. 40 ft.; coring 1,460 ft.
W. H. Rowe et al's No. 1 Craig, 330 ft. S and E, of center Sec. 22-9-13 ..... Set 10-in. 40 ft.
Tex.-La.-Ark. Oil Co.'s No. 1 Bowman-Hicks, 295 ft. N, 440 ft. E, SW cor. SW NW Sec. 23-9-13 ..... Dry and abd. 2,020 ft.
J. R. Williams' No. 1 Tatum, 330 ft. N and W, SE cor. NW SE Sec. 32-9-13 ..... Rigging up.
Windsor Oil Co.'s No. 2 Barr, 330 ft. N and E, SW cor. NW Sec. 15-9-13 ..... Location.
Winn & Caviness' No. 1 Paul est., 830 ft. N, 43 ft. W, SE cor. NW Sec. 9-9-13 ..... Set 10-in. 45 ft.

SABINE—ZWOLLE

H. C. Maulding's No. 1 Alford, 330 ft. S and W, NE cor. NW NW Sec. 18-7-10 ..... Derrick.
H. C. Maulding's No. 1 Van Vickhaven, 330 ft. N and W, SE cor. NE Sec. 3-7-11 ..... Drlg. 1,600 ft.

WINN PARISH

Allen & Wright's No. 1 Price, Sec. 9-2-3w ..... Set 12½-in. 236 ft.; drlg. 450 ft.

Arkansas

CONWAY COUNTY

Sou. Union Gas Co.'s No. 1 Feldman, C SW SW Sec. 6-6-17 ..... Reaming 2,250 ft.

JEFFERSON COUNTY

J. E. Elliott's No. 1 B. V. Nevin, 440 ft. N and E, SW cor. SW NW Sec. 26-4-10 ..... Rigging up.

HEMPSTEAD COUNTY

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26. Reaming 945 ft.

LAFAYETTE COUNTY

Douglas Lawn's No. 1 Camp, 330 ft. S and W, NE cor. SW SE Sec. 14-15-23 ..... S.D. 50 ft.
George W. Harper's No. 2 Bodcaw, 150 ft. S, 550 ft. E NW cor. SW NW Sec. 16-15-22 ..... Arranging to test 1,316 ft.

MILLER COUNTY

Black Diamond Oil Co.'s No. 1 Miller Land Co., Sec. 29-18-27 ..... S.D. 2,310 ft.
Duluth-Ark. Oil Co.'s No. 2 Beck, 330 ft. S and E, NW cor. SE SW Sec. 34-15-26 ..... Testing 2,807 ft.
Fitzwater et al's No. 1 Norson, SW cor. SE SW Sec. 20-15-27 ..... Set 6⅝-in. 2,978 ft.; T.D. 3,008 ft.
C. E. Murdock's No. 1 Rose, Sec. 4-16-26..... W.O.S.R. 2,941 ft.
C. E. Murdock's No. 1 Smith (formerly Baker & McMurray), 150 ft. N and W, SE cor. SE SW Sec. 33-15-26 ..... Drlg. 2,780 ft.
Frank W. Roe's No. 1 Dominick, 330 ft. S and E, NW cor. NW NW Sec. 21-15-26 ..... Drlg. 2,480 ft. (corrected).
Texarkana Oil Corp.'s No. 2 E. L. Beck, 240 ft. N, 450 ft. E. SW cor. SW SE Sec. 33-15-26 ..... Fishing for D.S. 2,860 ft.
Lee Timberlake's No. 1 B. F. Smith, 150 ft. N and W, SE cor. NE SW Sec. 33-15-26..... Drlg. 2,200 ft.

OUACHITA COUNTY

F. G. Harrell's No. 1 Poindexter, 330 ft. S and E NW cor. Sec. 35-15-18 ..... S.D. 2,390 ft.
L. L. McDonald's No. 1 J. A. Robertson, 200 ft. S and E, NW cor. NE NW Sec. 25-15-16..... Set 6⅝-in. 2,018 ft.

UNION COUNTY

D. S. Brook's No. 1 Murphy Land Co., 330 ft. S and E, NW cor. NW NE Sec. 34-19-18..... Reaming 2,112 ft.
E. R. Henderson's No. 2 J. H. Ogden, 330 ft. S and E, NW cor. SW SE Sec. 32-18-14 ..... W.O.S.R. 2,208 ft.
E. R. Henderson's No. 1 Vines, 330 ft. N and W, SE cor. SW SE Sec. 29-18-14 ..... S.D. 1,720 ft.
Marine Oil Co.'s No. 2 Union Sawmill Co., 330 ft. S and E, NW cor. SE SE Sec. 3-18-13 ..... W.O.S.R. 3,563 ft.
Sam M. Richardson Oil Co., Inc.'s No. 1 Hammond, 330 ft. S and E, NW cor. SE NE Sec. 19-17-15..... S.D. 2,148 ft.
Chas. Steele's No. 1 J. B. Combs, 150 ft. N, 185 ft. W, SE cor. SW NW Sec. 25-18-16 ..... Rigging up.

Mississippi

MADISON COUNTY

H. A. Wilson, tr.'s No. 1 Copex, 200 ft. N and E, SW cor. SW NE Sec. 24-9-3e ..... Drlg. 2,075 ft.

NEWTON COUNTY

Bod Dalton et al's No. 2 Majura, SE SE Sec. 25-6-11.... Drlg. 3,080 ft.

SIMPSON COUNTY

Beavy Corp.'s No. 1 R. J. Beavy, C SW Sec. 32-2n-4e... Drlg. 2,266 ft.

TALLAHATCHIE COUNTY

R. E. Collins et al's No. 1 Bunton, SE NE Sec. 28-26n-3e. Drlg. 2,217 ft.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, Sec. 24-2n-9e, SW cor. SW SE ..... Moving in rig.

WARREN COUNTY

Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E. CWL, Sec. 14-14-1e ..... Drlg. 2,416 ft.

Louisiana-Arkansas Proven Areas

North Louisiana

CADDO PARISH—BLANCHARD

Company, well, farm name, section and block—	Remarks:
Louana O. & G. Co.'s No. 2 Hammock, C SW SE Sec. 32-19-16	Set 6-in. 2,720 ft.

CADDO—RODESSA

R. W. Norton's No. 1-B J. B. French, 660 ft. S and E, NW cor., Sec. 34-23-16	Set 8-in. 5,095 ft.

DE SOTO PARISH

Tom McKinney et al's No. 1 J. M. Nabors, 330 ft. N and E, SW cor. SE SE Sec. 26-12-12	Rig up.

MOREHOUSE PARISH

United Carbon Co.'s No. 1 Montgomery, 1,339 ft. S, 2,268 ft. E of C Sec. 9-21-51	Drlg. 2,305 ft.

OUACHITA PARISH

Hatcher & Evans' No. 10 Hatcher, Sec. 17-19-4.....	Set 12-in. 155 ft.
Maury Drlg. Co.'s No. 6 McEwen, 3,300 ft. E, 10 ft. S, NW cor. SW Sec. 29-19-4e	Set 6-in. 2,143 ft.

SABINE PARISH—ZWOLLE

Baird Bros.' No. 1 Cooper, 330 ft. S and W, NE cor. SE Sec. 30-8-11	Set 10-in. 40 ft.
Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12	Moving in rig.
Warren G. Gray's No. 1 Nulton, 2,970 ft. W, 330 ft. S, NE cor. Sec. 2-7-13	Plugging bottom 2,485 ft.
Magnolia Pet. Co.'s No. 1 Semon Lilly, NE cor. SE NW Sec. 8-7-11	Treating with acid 2,590 ft.
Magnolia Pet. Co.'s No. 2 Gindratt, 330 ft. N, 320 ft. E, SW cor. SE Sec. 30-8-11	Bailing 2,485 ft.
Pelican Nat. Gas Co.'s No. 27 La. Long Leaf Lbr. Co., 618 ft. N, 330 ft. W, SE cor. SW SW Sec. 29-8-11..	Set 6-in. 2,259 ft.
Pelican Nat. Gas Co.'s No. 11 Sabine Lbr Co., 330 ft. S and W, NE cor. SW NE Sec. 7-7-11	Comp. flowing 1,250 bbls. at 2,-416 ft.
Pugh-Hickman's No. 8 Stille, 330 ft. S and E, NW cor. Sec. 16-7-11	S.W. 2,565 ft.
Rig Oil Co.'s No. 1 Walden, 330 ft. N and E, SW cor. NW NE Sec. 28-8-11	Derrick.
C. T. Ruffin's No. 1 McNeely, 510 ft. S, 330 ft. W, NE cor. NE NE Sec. 7-7-11	Testing 2,550 ft.
Service Drlg. & Royalty Co.'s No. 1-B Smith, 990 ft. S and W, C Sec. 7-7-10	Comp. swabbing 200 bbls. at 2,-672 ft.
L. J. Tillery's No. 1 Sabine Lbr. Co., 800 ft. S, 220 ft. W, NE cor. Lot 3, La. Nava grant, Sec. 5-7-11	Using acid 2,475 ft.

Mississippi

HINDS COUNTY

B. B. Jones' No. 1 McRae, 580 ft. W, 540 ft. N, SE cor. SW NW Sec. 24-7n-1w	Drlg. 3,909 ft.
B. B. Jones' No. 1 Stone, 500 ft. S, 100 ft. E, NW cor. Sec. 18-5n-3e	Drlg. 2,940 ft.
Meredith Trading Co.'s No. 1 Nelson et al, 620 ft. E, 330 ft. S, NW cor. SW SE Sec. 24-6-1e	Comp. 25,000,000 ft. gas 2,515 ft.
Muse & Weaver's No. 1 Sellers, 660 ft. N, 330 ft. W, SE cor. SW NE Sec. 26-6n-1e	Reaming 2,462 ft.

RANKIN COUNTY

Ferguson, Fuller & Metz' No. 1 Ammons, 350 ft. E and S, NW cor. NW NW Sec. 35-3n-3e	Rigged up.
Cleve Love et al's No. 1 Thomas, SW Sec. 10-4-1e	Drlg. 4,747 ft.

East Texas (Border Counties)

PANOLA COUNTY

W. H. Nichols et al's No. 1 S. W. Ray, 330 ft. S of N line, 330 ft. W of E line, W. P. Culver Sur.	Fishing 1,850 ft.
M. H. Robbins et al's No. 1 Alzee Williams, 165 ft. N and E, SW cor. 30-ac. tract in Winnie Mann Sur. ...	Coring 2,109 ft.

Wildcat Operations in Gulf Coast

(Continued from Page 46)

BLUE RIDGE—FORT BEND COUNTY

San Jacinto Oil Co.'s No. 3 Blakeley, 275 ft. W of No. 2, E. Drew Sur. ..... Drlg. shale 4,350 ft.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 38 Moore, James Frazier Sur., 380 ft. E, 100 ft. S of No. 31 ..... Drlg. shale 1,562 ft.

RABBS RIDGE—FORT BEND COUNTY

Gulf Prod. Co.'s No. 3 Hammerstram, Samuel Kennedy Sur. ..... Drlg. shale 5,370 ft.
Humble O. & R. Co.'s No. 9 M. Gubbles, Sam Kennedy Sur., 814 ft. SE of No. 7 ..... T.D. 5,336 ft.; cmtd. csg.
Humble O. & R. Co.'s No. 21-B Lockwood & Sharp, J. Rabb Sur. ..... Drlg. shale 3,673 ft.
Humble O. & R. Co.'s No. 25-A Lockwood & Sharp, John Rabb Sur., 2,872 ft. W of E line, 379 ft. S of N line of survey ..... No report.
Humble O. & R. Co.'s No. 2 Walters, R. Peebles Sur., 300 ft. from N and E lines of lease ..... Drlg. shale 5,478 ft.

SUGARLAND—FORT BEND COUNTY

Dewalt Oil Co.'s No. 1 Peterson ..... Drlg. sticky shale 2,705 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 2 Broussard-Orme, Martin Dunman Sur., 300 ft. S of No. 1-B Cade ..... Drlg. shale 5,226 ft.
Yount Lee Oil Co.'s No. 2-B Cade, 170 ft. from N line, 100 ft. from E line of 40-ac. lease, N. Fitzsimmons Sur. ..... Derrick.
Yount Lee Oil Co.'s No. 38 Cade, 600 ft. NW of No. 1-B Cade, 755 ft. from No. 1 Smith, N. Fitzsimmons Sur. ..... Drlg. sand 5,439 ft.
Yount Lee Oil Co.'s No. 19 Smith, Martin Dunman Sur., 150 ft. N at R/A from center of line between 14 and 15 ..... Drlg. shale 5,169 ft.
Yount Lee Oil Co.'s No. 20 Smith, 1,210 ft. from W line, 1,790 ft. from N line of 200-ac. tract, Dunman Sur. ..... Drlg. sand 3,055 ft.

ARRIOLA—HARDIN COUNTY

Republic-Houston Oil Co.'s No. 6 Arriola fee, 2,150 ft. S of N line, 5,050 ft. E of W line of lease, Arriola Sur. ..... Drlg. shale 4,250 ft.

BATSON—HARDIN COUNTY

Danciger O. & R. Co.'s No. 2 Hooks, W. Donoho Sur., 330 ft. E of CWL, Blk. 24 ..... T.D. 4,495 ft.; reaming 3,856 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 104 Jordit fee, 50 ft. N of No. 94. T.D. 918 ft.; P.B. to 814 ft.; 15 bbls. pumping.
Seismo Oil Co.'s No. 1 Casewell, 940 ft. S of NW cor. and 600 ft. from E line, H.B.B.&C. Sur. ..... Drlg. shale 2,898 ft.

SOUR LAKE—HARDIN COUNTY

Arlis Pet. Co.'s No. 1 Sour Lake Bank, H.&T.C. Sur., NW cor. Blk. 11, Sec. 69 ..... T.D. 2,050 ft.; standing.

GOOSE CREEK—HARRIS COUNTY

H. J. De Arman's No. 1 Aday, W. Scott Sur., 505 ft. from W, 130 ft. from S line of lease ..... Cmtd. csg. 2,796 ft.
McPhail & Atkins' No. 1 Harral, Wm. Scott League, 600 ft. W and N from Humble's No. 1 Harral..... Rigging.

HUMBLE—HARRIS COUNTY

Marshall & Drake's No. 1 Wheeler-Pickens, Stevenson Sur., 50 ft. from W line, 130 ft. from S line, Blk. 26 (W.O.) ..... Rigging.

PIERCE JUNCTION—HARRIS COUNTY

Harrison & Abercrombie's No. 4 Ridder, J. Hamilton Sur., 50 ft. W of No. 3 ..... Drlg. sand 3,907 ft.
Rio Bravo Oil Co.'s No. 16-A Settegast, 620 ft. W, 329 ft. N, SE cor. J. Kopman Sur. (W.O.) ..... Rigging.

TOMBALL—HARRIS COUNTY

Amerada Pet. Corp.'s No. 1 Bode, J. Hooper Sur., 686 ft. from E and W lines, 330 ft. from S line of lease. Drlg. shale 6,256 ft.
Amerada Pet. Corp.'s No. 1 Nelson, 466 ft. from S line, 410 ft. from W line, Joseph House Sur. ..... Drlg. shale 5,584 ft.
Amerada Pet. Corp.'s No. 1 Otto-Rudel, J. House Sur., 318 ft. from N line, 466 ft. from E line ..... Drlg. shale 5,582 ft.
Amerada Pet. Corp.'s No. 2 Otto Rudel, 466 ft. from N line, 500 ft. from W line of tract, J. House Sur. .. Drlg. shale 3,950 ft.
Humble O. & R. Co.'s No. 1 Moody, 466 ft. E, 466 ft. S of NW cor. 100-ac. tract, J. H. Edwards Sur. ... Drlg. shale 955 ft.
Humble O. & R. Co.'s No. 2 Quilter, A. Senechal Sur., 933 ft. E of No. 1 and 466 ft. from E line ..... Drlg. shale 5,401 ft.
Humble O. & R. Co.'s No. 1 W. Theis, J. H. Edwards Sur., 1,299 ft. N line, 466 ft. W line of lease ..... Cmtd. csg. 5,617 ft.
Humble O. & R. Co.'s No. 1 Treichel, 466 ft. from SW cor. 100-ac. tract, C. Goodrich Sur. ..... Comp. gas; T.D. 5,571 ft.
Skelly Oil Co.'s No. 1 Schultz, J. H. Edwards Sur., 456 ft. from S line, 404 ft. from E and W lines ..... Derrick.
Standard O. & G. Co.'s No. 1 Brautigan, 466 ft. from N line and 575 ft. from E and W lines of tract, N. Anderson Sur. ..... Derrick.
Stanolind O. & G. Co.'s No. 2 Theis, J. H. Edwards Sur., 466 ft. N, 404 ft. W of SE cor. of lease..... T.D. 5,543 ft.; S.G. cmtd csg.
Stanolind O. & G. Co.'s No. 3 Theis, J. H. Edwards Sur., 345 ft. S of N line and 466 ft. E of W line ..... Rigging.
Texas Co.'s No. 3 E. Mueller, 668 ft. W and 1,889 ft. N of SE cor. of tract ..... Rigging.
Texas Co.'s No. 1 E. Hillequist, 516 ft. W, 466 ft. N of SE cor. of 100-ac. tract, Joseph House Sur. ..... Drlg. shale 5,589 ft.
Texas Co.'s No. 1 O. Hillequist, 466 ft. N of S line, 400 ft. W of E line of lease, Joseph House Sur. ... Abd. 5,569 ft.
Windsor Oil Co.'s No. 1 Petrick, J. H. Edwards Sur., 467 ft. from N and E lines of tract ..... Drlg. shale 4,000 ft.

FANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 14 Thomas, 951 ft. W, 100 ft. N of SE cor. of 446-ac. tract, Wm. Smith Sur. ..... T.D. 3,654 ft.; comp. 100 bbls. on pump.

ESPERSON—LIBERTY COUNTY

General Crude Oil Co.'s No. 7 Davis (W.O.), Duncan Sur.. T.D. 7,510 ft.; D.S. stuck; fishing.
General Crude Oil Co.'s No. 18 Esperson, C. W. Fisher Sur., 400 ft. S of No. 7 (W.O.) ..... Rigging., T.D. 3,080 ft.

HULL—LIBERTY COUNTY

Gulf Prod. Co.'s No. 1 Briggs, 50 ft. each way from NE cor. of lease, J. Devore Sur. ..... Drlg. shale 2,437 ft.
Gulf Prod. Co.'s No. 94 Phoenix, 50 ft. each way from most westerly SW cor. J. Devore Sur. ..... Drlg. shale 3,912 ft.
Hannah Oil Co.'s No. 1 Hannah, J. Devore Sur. (W.O.).. Derrick.
Hannah Oil Co.'s No. 2 Hannah, J. Devore Sur. ..... Derrick.
Humble O. & R. Co.'s No. 31 Hooks-Guedry, J. Devore Sur., 250 ft. from S, 150 ft. from W line of lease ..... Drlg. shale 2,511 ft.
Humble O. & R. Co.'s No. 33 Hooks-Guedry, J. Devore Sur. ..... Drlg. shale 2,983 ft.
Liberty-Hull Oil Co.'s No. 2 Mecom fee ..... Comp. 224 bbls.; ¼-in. choke; 4,494 ft.
Miramar Oil Corp.'s No. 6-A Phoenix, Jesse Devore Sur.. Comp. 196 bbls.; 5/16-in. choke; 4,739 ft.
Miramar Oil Corp.'s No. 2-B Phoenix ..... Drlg. shale 5,108 ft.
Sun Oil Co.'s No. 2-A Carr, 197 ft. W of No. 1, Jesse Devore Sur. ..... Drlg. shale 3,001 ft.
Texas Co.'s No. 5 Barrow fee, J. Devore Sur., 533 ft. S, 150 ft. W of NE cor. of lease ..... Drlg. shale 4,281 ft.
Yount Lee Oil Co.'s No. 4 Hooks-Sterling, J. Devore Sur., 150 ft. S of N line, 535 ft. W of E line of lease.. Drlg. sand 4,919 ft.
Yount Lee Oil Co.'s No. 5 Hooks fee, 200 ft. E, 50 ft. N of S line of lease, J. Devore Sur. ..... Derrick.
Yount Lee Oil Co.'s No. 6 Hooks fee, 50 ft. from N, 150 ft. from E line of lease, J. Devore Sur. ..... Drlg. shale 3,490 ft.

LIBERTY FIELD—LIBERTY COUNTY

Ross Oil Co.'s No. 1 Richardson, M. G. White Sur., 120 ft. E of Gulf-Humble's No. 1 Carter ..... Derrick.

CONROE—MONTGOMERY COUNTY

Alpha Pet. Co.'s No. 2 Crowe, S. H. Bryan Sur. ..... Drlg. shale 5,040 ft.
Alpha Pet. Co.'s No. 2-B Krohn, Stephen Bryan Sur. .. Rig.
Canadian Oil Co.'s No. 1 Allen ..... Rigging.
Gulf Coast Drlg. & Prod. Co.'s No. 2 J. L. Hensley, A. Steele Sur., 466 ft. S line in center E and W of strip ..... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 12 Keystone Mills, A. James Sur., 467 ft. W line, 933 ft. S of No. 11.. Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 14-A Keystone Mills, A. James Sur., 840 ft. W of No. 3 ..... Rig.
Gulf Coast Drlg. & Prod. Co.'s No. 15-A Keystone Mills, A. James Sur., 350 ft. W of No. 14 ..... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 16-A Keystone Mills, A. James Sur., 350 ft. W of No. 15 ..... Comp. 72 bbls. per hour; ½-in. choke, 5,142 ft.
Gulf Coast Drlg. & Prod. Co.'s No. 19-A Keystone Mills, A. S. James Sur. ..... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 28-A Keystone Mills, A. S. James Sur. ..... Comp. 80 bbls. per hour; ½-in. choke, 5,153 ft.
Gulf Oil & Sulphur Co.'s No. 3 Springfield, J. S. Springfield Sur., 466 ft. from SW line, 100-ac. lease ..... Derrick.
Harrison & Abercrombie's No. 1-A Lola McShane, 225 ft. from E and N lines of Sec. 5, T.&N.O. Sur. .... Comp. 60 bbls. per hour; ½-in. choke; 5,074 ft.
Humble O. & R. Co.'s No. 4-B Cartwright, J. A. Davis Sur. ..... Drlg. shale 3,108 ft.
Humble O. & R. Co.'s No. 17 Madeley, Ransom House Sur. ..... Drlg. shale 1,310 ft.
Humble O. & R. Co.'s No. 38 Madeley, Ransom House Sur. ..... Drlg. shale 1,440 ft.
Humble O. & R. Co.'s No. 1-F Alexander (relief well).. Drlg. shale 4,946 ft.
Humble O. & R. Co.'s No. 13-A Cartwright, J. A. Davis Sur. ..... Drlg. lime 4,540 ft.
Humble O. & R. Co.'s No. 1 American Natl. Bank .... Drlg. shale 5,035 ft.
Humble O. & R. Co.'s No. 44 Moore, Lemuel Smith Sur.. Shale 5,127 ft.; cmtd. csg.
Humble O. & R. Co.'s No. 7 Hooker ..... Drlg. shale 2,465 ft.
Humble O. & R. Co.'s No. 39-A South Tex. Dev. Co., T. Slade Sur. ..... Shale 5,198 ft.; cmtd. csg.
Humble O. & R. Co.'s No. 55 So. Tex. Dev., T. Slade Sur., 933 ft. E of No. 54 ..... Drlg. shale 1,793 ft.
Humble O. & R. Co.'s No. 56-A South Tex. Dev. Co., T. Slade Sur. ..... Comp. 89 bbls. per hr.; ½-in. choke, 5,138 ft.
Humble O. & R. Co.'s No. 4-C South Tex. Dev. Co. .... Shale 5,168 ft.; cmtd. csg.
Humble O. & R. Co.'s No. 1-G So. Tex. Dev. Co. ..... Drlg. shale 2,555 ft.
Pine Tree Oil Co.'s No. 1 South Tex. Dev. Co., T.&N. O. Sur. No. 13, 1,500 ft. W line, 310 ft. S line of Sur.. Drlg. shale 3,151 ft.
Southern Liberty Oil Co.'s No. 1 Harris, J. A. Davis Sur., 725 ft. from W line, 330 ft. from S line ..... Comp. 20 bbls. per hour; ½-in. choke, 5,147 ft.
Strake Pet., Inc.'s No. 4 Krohn, S. H. Bryan Sur., 712 ft. W of No. 1 ..... Comp 85 bbls. per hour; ½-in. choke, 5,136 ft.
Strake Pet., Inc.'s No. 5 Krohn, S. H. Bryan Sur., 717 ft. W of No. 2 ..... Drlg. shale 5,010 ft.
Sun Oil Co.'s No. 8 Keystone Mills, A. Steele Sur., 1,030 ft. S of No. 9 ..... Drlg. shale 5,055 ft.
Sun Oil Co.'s No. 23 Foster ..... Derrick.
Sun Oil Co.'s No. 10 Keystone Mills, A. Steele Sur. ..... Derrick.
Sun Oil Co.'s No. 2 McDonald, W. Strickland Sur., 350 ft. N, 840 ft. E of No. 1 ..... Drlg. shale 4,489 ft.
Texas Unity Oil Co.'s No. 1-B Allen ..... Drlg. shale 668 ft.
Tide Water Oil Co.'s No. 3 American Natl. Bank, W. Strickland Sur., 250 ft. N, 200 ft. E line of lease... Drlg. shale 4,080 ft.
Tide Water Oil Co.'s No. 2 Amer. Natl. Bank, 200 ft. S, 466 ft. E line of tract, W. Strickland Sur. ..... Rigging.
Tide Water Oil Co.'s No. 14 Dean, 330 ft. N line and 1,650 ft. from W line of lease ..... Rigging.
Tide Water Oil Co.'s No. 8 Krohn, 330 ft. from S and E lines, S. H. Bryan Sur. ..... Drlg. shale 2,820 ft.
Tide Water Oil Co.'s No. 30 Lewis, C. B. Stewart Sur., 1,973 ft. E, 1,493 ft. S line of lease ..... Shale 5,127 ft.; cmtd. csg.
Tide Water Oil Co.'s No. 31 Lewis, C. B. Stewart Sur., 3,029 ft. N, 1,933 ft. E line of lease ..... Shale 5,112 ft.; cmtd. csg.

ORANGE—ORANGE COUNTY

Gulf Prod. Co.'s No. 12 Hager-Moore (W.O.) ..... Drlg. shale 5,931 ft.

PORT NECHES—ORANGE COUNTY

Texas Co.'s No. 3-B Polk, 695 ft. N, 150 ft. S of NE cor. of N. Jacob Beaumont Sur. ..... Drlg. sand 3,903 ft.
Texas Co.'s No. 4 Kuhn, 150 ft. E, 150 ft. N of NW cor. of lease ..... Drlg. sticky shale 4,802 ft.
Texas Co.'s No. 5 Kuhn, 693 ft. from E line, 150 ft. from N line of SE cor. of lease, M. Hall No. 2, T. J. Notgrass Sur. ..... Drlg. shale 3,289 ft.

LIVINGSTON—POLK COUNTY

Vick Borsodi et al's No. 1 West, E 3½ acres of 35 acres, Roberts tract A, Viesca Sur. ..... T.D. 4,370 ft.; P.B. to 4,356 ft.
Gist Oil Co.'s No. 1 Kingsbury County Holding Corp., A. Viesca Sur., 150 ft. N at R/A and 193 ft. E along S line of tract ..... Drlg. shale 4,164 ft.
Harrison & Abercrombie's No. 2 Carter, 466 ft. S and W of NW cor. Shell 80-ac. Jones lease ..... Drlg. shale 4,314 ft.
Humble O. & R. Co.'s No. 6 Grandbury, 1,079 ft. N and E of No. 7, A. Viesca Sur. ..... Abd. 4,408 ft.
Humble O. & R. Co.'s No. 7 Grandbury, 540 ft. NE, 404 ft. NW at R/A from NW cor. R. H. Jones (110-ac.) ..... Derrick.
Humble O. & R. Co.'s No. 8 Grandbury, 466 ft. from NE line, 466 ft. from NW line, Sec. 14, A. Viesca Sur. ..... Drlg. shale 2,545 ft.
Polk County Oil Co.'s No. 3 Allen Highbarger, 330 ft. E of W line and 464 ft. N of S line, A. Wiesca Sur.. Drlg. shale 2,049 ft.
Shell Pet. Corp.'s No. 1 J. Duff, 438 ft. NW, 33 ft. NE lines of lease, A. Viesca Sur. ..... T.D. 4,587 ft.; P.B. to 4,329 ft.; recemented csg. 4,313 ft.

GRETA—REFUGIO COUNTY

Atlantic Oil Prod. Co.'s No. 4-A O'Brien, 466 ft. S line, 933 ft. E of No. 2, M. J. Ximines Sur. ..... Drlg. sand 4,391 ft.
Atlantic Oil Prod. Co.'s No. 2-B J. J. O'Brien, 466 ft. each way from SE cor. of 50-ac. lease, N. S. Crunk Sur. ..... Drlg. shale 1,650 ft.
Atlantic Oil Prod. Co.'s No. 2-J O'Brien, 466 ft. from SE cor. J. H. Peoples Sur. ..... Drlg. lime 4,118 ft.
Atlantic Oil Prod. Co.'s No. 2 Heard, 933 ft. E of No. 1, center N and S, J. H. Peoples Sur. ..... Drlg. shale 4,361 ft.
Blanco Oil Co.'s No. 3-A J. J. O'Brien, N. S. Crunk Sur. ..... Drlg. shale 685 ft.
Circle W Oil Co.'s No. 6 O'Brien, 398 ft. N, 466 ft. E lines of lease, E. H. Winfield Sur. ..... Drlg. shale 4,357 ft.
Dash Prod. Co.'s No. 2-E O'Brien, N. S. Crunk Sur., 466 ft. N of SE line, center E and W of tract .... Derrick.
Floboots Oil Corp.'s No. 1 M. C. Bauer, 330 ft. N line, 1,724 ft. from W line, J. M. Ximines Sur. ..... Drlg. shale 1,325 ft.
Humble O. & R. Co.'s No. 2 Heard, 466 ft. S of most southerly N line, 303 ft. E of most westerly line, N. S. Crunk Sur. ..... Drlg. shale 4,275 ft.
Humble O. & R. Co.'s No. 1 J. B. B. Heard, 466 ft. from SW cor. 500-ac. tract, J. H. Peoples Sur. ..... Drlg. shale 1,289 ft.
Humble O. & R. Co.'s No. 1 Wilder, 466 ft. S line, 313 ft. E line, J. T. McGrew Sur. ..... Drlg. clay 293 ft.
Edwin M. Jones' No. 5-A J. M. O'Brien, N. S. Crunk Sur., 933 ft. E of No. 4 ..... Drlg. shale 1,119 ft.
Edwin M. Jones' No. 8-A O'Brien, N. S. Crunk Sur., 466 ft. W of E line, 1,629 ft. N of S line of lease.. Rigging.
Nesral Oil Co.'s No. 1 Ira Heard, M. J. Ximines Sur., 330 ft. out of NW cor. of 25-ac. tract ..... Drlg. shale 6,175 ft.
Nesral Oil Co.'s No. 1 V. E. Heard, 466 ft. N line, 266 ft. W line, M. J. Ximines Sur. ..... Sand 5,998-6,006 ft.; set screen and swabbing.
Nesral Oil Co.'s No. 2 W. Heard, 710 ft. W line, 1,510 ft. N line of lease, M. J. Ximines Sur. ..... Derrick.
Southwest Oil Corp.'s No. 4-B O'Brien, N. S. Crunk Sur., 466 ft. N of S, 466 ft. E of W line of lease.. Drlg. shale 2,885 ft.
Standard of Kansas' No. 1 O'Conner, 466 ft. from N line, center E and W of lease, N. S. Crunk Sur.. Cmtd. csg. 4,363 ft.
Stanolind-Atkins' No. 1 Welder, 466 ft. S line, 213 ft. W line of 300-ac. tract, J. T. McGrew Sur. ..... Sand 4,379-99 ft.; pulling screen to reset.
Stanolind O. & G. Co.'s No. 1 J. M. O'Brien (Blk. 11), E. H. Winfield Sur., 500 ft. from E line, 466 ft. from S line ..... Rigging.
Stanolind O. & G. Co.'s No. 1 J. M. O'Brien (Blk. 13), E. H. Winfield Sur., 466 ft. from S line, 500 ft. from E line ..... Derrick.
Trinity Drillers' No. 1 Welder, J. T. McGrew Sur., 466 ft. from S and W lines, J. F. Welder 200-ac. tract.. Drlg. shale 4,544 ft.
United Prod. Co.'s No. 11 Fox, 867 ft. NE of No. 10, Hews & Brown Sur. ..... T.D. 4,395 ft.; csg. cmtd.
United Prod. Co.'s No. 12 Fox, 1,450 ft. NW of No. 11, Hews & Brown Sur. ..... Drlg. shale 1,046 ft.

CLAY CREEK—WASHINGTON COUNTY

M. O. N. T. Oil Co.'s No. 1 Giddings ..... Drlg. shale 3,203 ft.
Sun Oil Co.'s No. 3 Schermer, N. Clay Sur., 330 ft. NW, 330 ft. SW line of lease ..... Drlg. sand 1,095 ft.

SOUTH LOUISIANA

MISCELLANEOUS WILDCATS

ACADIA PARISH

Mills Bennett Prod. Co.'s No. 1 Riverside, 1,400 ft. S, 467 ft. E of NW cor. Sec. 61-9s-2w ..... Drlg. shale 3,310 ft.
Superior Oil Co.'s No. 1 P. O. Hernandez, 990 ft. W, 990 ft. S of NE cor. SE Sec. 34-8s-3e ..... Drlg. sand 5,585 ft.
I. M. Pharris' No. 1 Link Bros., 150 ft. S, 150 ft. E, NW cor. Sec. 36-7s-1e ..... Gumbo 475 ft.; standing.

CAMERON PARISH

Southern Sulphur Co.'s No. 1 Gulf of Mexico, 330 ft. S, 338 ft. E of SW cor. Sec. 29-15s-10w ..... T.D. 3,275 ft.; standing.
Texas Co.'s No. 9 State, Calcasieu Lake, 16,055 ft. W, 3,270 ft. N, NE cor. Sec. 1-14s-9w ..... Drlg. shale 4,990 ft.

CALCASIEU PARISH

Gulf Ref. Co.'s No. 1 Sweet Lake Oil Co., 660 ft. N, 330 ft. E of SW cor. Sec. 29-10s-5w ..... Drlg. shale 6,857 ft.
Fred Oil Co.'s No. 1 Parent, 566 ft. N, 300 ft. W, SE cor. NW SE Sec. 26-8s-10w ..... Drlg. sand 1,220 ft.
Union Sulphur Co.'s No. 1 Barbe, 2,631 ft. W, 2,647 ft. S of NE cor. Sec. 1-9s-8w ..... T.D. 5,726 ft.; to straighten hole.

EVANGELINE PARISH

J. E. Ledau's No. 3 Vidrine, 30 ft. S of No. 2, Sec. 47-3s-2e ..... Standing 345 ft.

JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 3 Devilbiss, 1,850 ft. S, 250 ft. W of NE cor. Sec. 14-9s-4w ..... Drlg. sand 8,328 ft.
Shell Pet. Corp.'s No. 1 Kratzz, 660 ft. S, 330 ft. W of NE cor. NW Sec. 13-9s-4w ..... Drlg. shale 4,238 ft.

LAFOURCHE PARISH

Barnsdall Oil Co.'s No. 1 Harang, Lot 4, Twp. 17s-20e... Drlg. shale 6,766 ft.

IBERIA PARISH

Gross Tete Dev. Co.'s No. 1 Angelloz ..... Standing 1,685 ft.

PLAQUEMINES PARISH

Southern Sulphur Co.'s No. 1 Bay Adams ..... Derrick.

ST. BERNARD PARISH

Southern Sulphur Co.'s No. 1 Lake Lery, 400 ft. W, 500 ft. N, SW cor. Sec. 25-13s-15e ..... Cmtd. csg. 212 ft.
Southern Sulphur Co.'s No. 1 State Lake Bargne, 850 ft. N, 230 ft. E, SE cor. Sec. 33-13s-15e ..... Cmtd. csg. 650 ft.

ST. LANDRY PARISH

Gaunch Synd.'s No. 1 Lewis, 300 ft. N and E of SW cor. NW NE Sec. 29-5s-6e ..... Abd. 4,000 ft.
H. H. Hotchins Lbr. Co.'s No. 1 Whiteman Lbr. Co., 250 ft. out of SW cor. NE Sec. 16-5s-6e ..... Standing 1,505 ft.

ST. MARTIN PARISH

Standard Oil Co. of Kansas' No. 1 E. B. Hopkins, Sec. 32-10s-6e ..... Drlg. sand 7,005 ft.

TERREBONNE PARISH

Texas Co.'s No. 9 State-Dog Lake ..... Drlg. shale 5,801 ft.
Texas Co.'s No. 10 State-Caillou Island..... Drlg. sand 3,351 ft.
Texas Co.'s No. 2 School Board-Bay St. Elaine ..... Drlg. shale 5,402 ft.
Texas Co.'s No. 2 State-Four Isle ..... Drlg. shale 4,552 ft.
Texas Co.'s No. 1 State Bay-St. Elaine, 3,900 ft. N, 2,300 ft. E of SW cor. Sec. 8-22s-18e ..... Moving in.
Texas Co.'s No. 10 State-Lake Peito, 420 ft. N, 1,246 ft. E, SW cor. Sec. 4-23s-18e ..... Drlg. sand 4,160 ft.

VERMILLION PARISH

Hammill & Smith's No. 1 Faulk, 600 ft. S, 400 ft. E of NW cor. Sec. 5-12s-3e ..... Drlg. shale 4,830 ft.

VERNON PARISH

Vernon Oil Co.'s No. 1 Delta Land & Lbr. Co. ..... Shale 2,600 ft.; standing.
Robt. K. Williams, Jr.'s No. 1 Llano Del Rio, 1,185 ft. S, 1,000 ft. W of NE cor. Sec. 7-1n-9w ..... Derrick.

TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Tibbetts et al's No. 1 Heideman, 4,320 ft. W along N line from NE cor. of A. Larson Sur. in J. Cooper Sur., thence 416 ft. N at R/A ..... Drlg. sand 1,290 ft.
R. R. Mitchell's No. 1 H. Schlerda, J. F. Fitzgibbons Sur., 300 ft. out NE cor. 96-ac. tract ..... Moving in material.

BRAZORIA COUNTY

Danciger O. & R. Co.'s No. 1 L. Williams, 700 ft. NE line, 726 ft. SE line of 180-ac. tract, W. C. Carson Sur. ..... Sand 6,697-6,700 ft.; S.O.; setting csg. 6,775 ft.
Shell Pet. Corp.'s No. 3 Harvey (Danbury), H.T.&B. R.R. Sur., 720 ft. SE of No. 1 Blakely-Winston..... Drlg. shale 818 ft.

BRAZOS COUNTY

H. Elliott et al's No. 1 W. F. Odom, near center of 379-ac. tract in SW cor. of Isack Curil Sur. ..... Cmtd. surface csg.
Liner et al's No. 1 Peters, 300 ft. SE line, 300 ft. SW line of E. V. Peter fee, G. Powell Sur. ..... Derrick.
F. H. Scott's No. 1 Klintworth, I. Curd Sur., 300 ft. from N line, 400 ft. from E line ..... T.D. 1,487 ft.; gas sand 1,393-1,420 ft.; standing.

BURLESON COUNTY

Berry & Hays' No. 1 Young, 250 ft. from SW, 1,089 ft. from SE of 147-ac. tract, John Bird Sur. ..... Fishing 1,790 ft.
Poor Boy Oil Co.'s No. 2 Palinsky, A. G. Lawrence Sur., 300 ft. due S of No. 1 ..... Shale 1,025 ft.; standing.

CHAMBERS COUNTY

Smith & Lavender's No. 1 McCormick, F. Ludlow Sur., 150 ft. NE cor. ..... Derrick.

COLORADO COUNTY

Hughes-Patrick Oil Co.'s No. 1 Lake Side Irrigation, 1,500 ft. SE, 500 ft. NE NW cor. Patrick Reel Sur. ..Standing 6,006 ft.
Plymouth Oil Co.'s No. 2 Ream, 1,000 ft. SW of No. 1, I.&G.N. Sur. ..... Cmtd. csg. 6,194 ft.; showing oil 6,194-97 ft.

FAYETTE COUNTY

Colorado Oil Corp., J. Winn Sur., 650 ft. NE of center of SW line of 63.8-ac. tract ..... T.D. 2,139 ft.; standing.

FORT BEND COUNTY

O'Connor Dome Oil Co.'s (was A. N. Phillips et al's) No. 1 Grigar, 2,150 varas E line, 1,550 varas N line, J. S. O'Connor Sur. ..... Drlg. 1,820 ft.
Quintana Oil Co.'s No. 1 Wood, O'Connell, Miller, S 87 deg. E, 13,000 ft. from SW cor. of lease ..... Drlg. gumbo 1,509 ft.
J. P. White's No. 1 Wing, B. Osborne Sur., 2,000 ft. from N, 4,000 ft. from E line of tract ..... Drlg. lime 705 ft.

GRIMES COUNTY

Clark & Dodd's No. 1 Murry, 150 ft. W line, 300 ft. S line, Anderson Sur. ..... Drlg. shale 715 ft.
Cambrian Oil Co.'s No. 1 W. V. Sangster, John Moore Sur., 300 ft. out of most westerly NW cor. of 218-ac. tract ..... Derrick.
Foster et al's No. 1 Quinn, 7,100 ft. from W line, 3,900 ft. from N line of S. F. Austin Sur. ..... Drlg. shale 2,928 ft.
Humble O. & R. Co.'s No. 1 Henderson, 750 ft. S, 700 ft. W at R/A of NE cor. of lease, G. W. Seaton Sur. ..... Drlg. sand and shale 4,868 ft.
H. C. Ratcliff's No. 1 Fulgham, A. Tuttle Sur., 600 ft. N line, 540 ft. W line of lease ..... Derrick.
O. C. Rush's No. 1 J. C. League, V. Sanders Sur., 165 ft. N, 455 ft. W of lease ..... Drlg. shale 1,155 ft.

HARRIS COUNTY

J. A. Hodges' No. 1 Scott, 200 ft. S, 900 ft. W of intersection of Crosby Huffman, F. Rankin Sur. ..... Drlg. shale 3,454 ft.
G. T. Lewis, tr.'s No. 1 Gore, S. McKissick Sur., 518 ft. SW along SE line of 100-ac. tract from W cor. of S. V. Allen's 105-ac. tract and 500 ft. NW at R/A in 100-ac. tract (W.O.) ..... T.D. 6,079 ft.; standing.
Melba Oil Co.'s No. 1 House, Harris County School Sur., 162 ft. S, 600 ft. N of NE cor. Sec. 32 ..... Drlg. shale 1,110 ft.
Russell et al's No. 1 Burt & Griffith, S. Keely Sur., 200 ft. N line, 200 ft. E of highway ..... T.D. 2,156 ft.; standing.
Jack Schultz et al's No. 1 Synd. Land Co., 2,200 ft. N of S line, 200 ft. W from SE cor. Pruitt Sur. ... T.D. 5,416 ft.; standing.
E. E. Young et al's No. 1 Paddock, J. Cunningham Sur., 300 ft. W of E line of Blk. 41 on line dividing Blks. 46 and 47 ..... Standing 1,800 ft.

HOUSTON COUNTY

Thompson et al's No. 1 E. W. Harrison, 330 ft. out E cor. 130-ac. tract, J. Masters, Sr., Sur. ..... Drlg. shale 5,547 ft.
Murmac Oil Co.'s No. 1 G. L. Murray & Son, John Durst Sur. ..... Standing 3,186 ft.

JACKSON COUNTY

Ed Parsons et al's No. 1 Clark, 300 ft. out SW cor. of R. J. and M. Clark lease, A. S. White Sur. ..... Drlg. shale 4,812 ft.

JEFFERSON COUNTY

Lucky Strike Oil Co.'s No. 1 Walker, D. Easley Sur., 2,100 ft. N, 1,400 ft. E of NW cor. of Lot No. 13.. Drlg. gumbo 1,350 ft.
Sun Oil Co.'s No. 1 H. Long, 1,500 ft. N line, 990 ft. E line of lease ..... Drlg. shale 540 ft.
Texas Co.'s No. 1 J. R. Bevil, 150 ft. each way out of NE cor. of lease, Brown & Caswell Sur. ..... Abd. 6,402 ft.

LEON COUNTY

Shell Pet. Corp.'s No. 1 A. Beggs, 406 ft. N, 1,128 ft. E of inside line of lease, John Carter Sur. ..... T.D. 6,072 ft.; P.B. to 5,852 ft.; comp. gas well.

LIBERTY COUNTY

Gulf Prod. Co.'s No. 1 Kirby Lbr. Co., 900 varas S of N line, 1,400 varas E of W line, J. Pleasant Sur. .... Sand 5,716-24 ft.; comp. 658 bbls. P.L. oil first 12 hrs.; ⅝-in. choke.
Layton et al's No. 1 J. A. Lovett, 200 ft. W of E line, 400 ft. N of S line of lease, P. P. Devers Sur. ..... Cmtd. csg. 785 ft.
E. V. Parsons et al's No. 1 Foster Lbr. Co., Ann Holhausen Sur., 750 varas S line, 3,700 varas W of E line ..... Derrick.
Thomas et al's No. 1 A. Ercke, 600 ft. E of W line, 2,350 ft. N of S line, A. H. Ercke Sur. in Reason & Green Sur. ..... Drlg. shale 4,933 ft.

MADISON COUNTY

Golden Tr., et al's No. 1 Poteet, J. S. Hunter Sur., 350 ft. from N line and 150 ft. from W line of tract .... Drlg. gumbo 1,951 ft.

MATAGORDA COUNTY

H. E. Clark et al's No. 1 Turner, M. Cummings Sur., 4,900 ft. NE line and 3,800 ft. SE line ..... Drlg. shale 4,210 ft.
Continental Oil Co.'s No. 1 Boker, 400 ft. out of SW cor. Lot 17, Robbins & Middle Subd., J. W. Criswell Sur. ..... T.D. 6,504 ft.; washing to bottom, 2,600 ft.
Oils Consd., Inc.'s No. 1 Hawkins, Daniel McCarthy Sur., 1,240 ft. NE, 350 ft. NW of S cor. ..... T.D. 5,510 ft.; drlg. new hole at 3,850 ft.
Skelly Oil Co.'s No. 1 Cobb, M. Cummins Sur., 434 ft. from E, 1,506 ft. S of F. G. Cobb's 167-ac. tract ... Spudding.
United North & South Dev. Co.'s No. 1 Unit 6 (No. 2 Stoddard), 25 ft. each way out of NW cor. of Lot 19, Buckeye townsite ..... Drlg. lime 8,162 ft.
United North & South Dev. Co.'s No. 1 Unit 25, 1,335 ft. S, 1,000 ft. E of No. 1 Unit 6 ..... Drlg. sand 8,261 ft.

MONTGOMERY COUNTY

Baker et al's No. 1 Benker, D. James Sur. ..... Drlg. sand 4,910 ft.
Derring & Frazier's No. 1 Rolph, H. Blood Sur., 660 ft. from center of survey ..... Drlg. shale 5,650 ft.
Sutton & Hawkins' No. 2 Foster est., 90 ft. E of No. 1, A. M. Del Garza Sur. ..... Drlg. shale 1,910 ft.

NACOGDOCHES COUNTY

James W. Rich's No. 1 Unknown, J. L. Ewing Sur., 2,777 ft. from W line, 5,208 ft. from S line of survey.. Drlg. shale 1,209 ft.

ORANGE COUNTY

Blue Line Oil Co.'s No. 1 Godwin, Richard Ballew Sur., 300 ft. from E line, 150 ft. from NE cor. of Godwin 20-ac. tract ..... Standing 465 ft.
Texas Louisiana Oil Co.'s No. 1 Starks, 2,450 ft. N of NW cor. M. Delano Sur. 68, 10,500 ft. E at R/A.... T.D. 1,197 ft.; standing.

POLK COUNTY

D. B. McCall's No. 1 Faulkner, 350 ft. W of center of E line of 200-ac. tract, G. B. Dikes Sur. ..... Standing 1,015 ft.
Dick Schwab's No. 2 Kirby, G. S. Thomas Sur., 330 ft. out of SW cor. of 250-ac. tract, of 500-ac. tract..... T.D. 4,850 ft.; cmtd. csg. 4,785 ft., made 250 bbls. fluid, 50% oil, 6,000,000 ft. of gas.

REFUGIO COUNTY

C. B. Bunte et al's No. 1 F. B. Rooke, J. M. Aldritte Sur., CWL of Sec. 4 ..... Drlg. shale 5,947 ft.
Holland Oil Co.'s No. 1 Peck, 366 ft. N and W from SW cor. Sec. 24, Bonnie View Subd. ..... Drlg. shale 610 ft.
Humble O. & R. Co.'s No. 10 O'Connor, Powers & Hewitson Sur., 15,133 ft. N of S line, 7,302 ft. W of E line, of J. Keating Sur. ..... Comp. 20 bbls. per hour; ½-in. choke. 3,042-3,103 ft.

SAN JACINTO COUNTY

Piedmont Oil Co.'s No. 2 Foster Lbr. Co., 330 ft. each way out of NE cor., Geo. Taylor Sur. ..... Moving in material.

TRINITY COUNTY

T. M. Smith et al's No. 1 C. Moody, E. Roberts Sur., 552 ft. W of E line, 1,202 ft. N of S line, of 40-ac. tract ..... Standing 1,896 ft.

TYLER COUNTY

Denton & Akin's No. 1 Seaman, 345 ft. from W line & 490 ft. from S line of W. Barclay Sur. ..... Abd. 1,609 ft.
Turnbull & Irwin's No. 1 Kirby Lbr. Co., J. J. Pemberton Sur., 1,238 ft. E from SW cor. of Ledrick Lbr. Co.'s 381-ac. tract, thence S 250 ft. at R/A .. Rigging.

VICTORIA COUNTY

Stoneleigh O. & G. Co.'s No. 1 Dietzel, 330 ft. out of NW cor. of Dietzel's 95-ac. tract, R. Manchola Sur.. T.D. 4,542 ft.; reaming.
Stoneleigh O. & G. Co.'s No. 2 E. B. Terrell, 330 ft. out of SE cor. of Terrell's 215-ac. tract, R. Manchola Sur. ..... Moving in derrick.
Stoneleigh O. & G. Co.'s No. 1 Trybbie, 330 ft. out of SE cor. Trybbie's 122-ac. tract, R. Manchola Sur. .. Moving in derrick.
Texas Co.'s No. 7-A McFaddin, 250 ft. due N of No. 7, A. J. Gray Sur. ..... T.D. 1,599 ft.; pumping mud
Texas Co.'s No. 8 McFaddin, A. J. Gray Sur., 6,400 ft. N of S line, 1,383 ft. from E line of NE cor. ..... Drlg. shale 2,922 ft.

WALKER COUNTY

McDowell et al's No. 1 Thompson, Jackson Crouch Sur., 330 ft. E of W line, 1,020 ft. S of N line.... Derrick.

WHARTON COUNTY

Harvey & Rusk's No. 1 Reid, 1,000 ft. SW, 500 ft. SE from N cor. of lease, Francis Biggam Sur. ..... Drlg. shale 5,291 ft.
Monarch Oil Co.'s No. 1 Schateck, 150 ft. each way out of SW cor. G. W. Reynolds Sur. ..... Standing 1,475 ft.
Nabert et al's No. 1 Lurker, 210 ft. out of SE cor. of N½ SW Sec. 58, E.T.R.R. Sur. ..... T.D. 5,026 ft.; pulled in derrick.
Pure Oil Co.'s No. 1 W. Garrett, Sec. 28, 4,456 ft. SE, 1,690 ft. NE of W cor. ..... T.D. 6,343 ft.; standing.
Pure Oil Co.'s No. 1 A. J. Wilder, T. W. Hurd Sur., 509, 2,575 ft. SE, 1,690 ft. NE from W cor. Sec. 28.. Fishing 7,614 ft.
Pure Oil Co.'s No. 1 Chas. T. Kuntze, 2,183 ft. from NW line, 467 ft. from SW line, Sec. 27, Morris & Cummings Sur. ..... Comp. 102 bbls. a day, plus 30% b.s., 7,118-43 ft.
Pure Oil Co.'s No. 1 W. H. Lancaster, Morris & Cummings Sur., Sec. 23, 1,650 ft. NW, 1,600 ft. SW of E cor. of section ..... Fishing 7,142 ft.
Pure Oil Co.'s No. 1 Willis McIntyre, 1,950 ft. S of N line, 1,759 ft. S of E line of section ..... Set 7-in. csg. at 6,447 ft. to test oil at 6,463-73 ft.; setting screen.
Pure Oil Co.'s No. 1 Wallace Houston, 858 ft. SE of NW line, 1,690 ft. NE of SW line, Sec. 28, (T. W. Heard Sur.) ..... Sand 6,441-51 ft.; setting screen.
Pure Oil Co.'s No. 1 Isaac Weaver, J. M. Brownson Sur., Sec. 22, 1,650 ft. out of N cor. of section ..... T.D. 6,181 ft.; standing.
Smith, McDannald and Pure Oil Co.'s No. 1 B. M. Yeamans, 330 ft. out of N cor. of B. M. Yeamans Sur., Abst. 913 ..... Tested S.W. at 6,196 ft.; standing.

Gulf Coast Proven Areas

SOUTH LOUISIANA FIELDS

BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 17 Watkins, 660 ft. E of No. 15, in Sec. 18-12s-12w ..... Drlg. shale 4,134 ft.

CAMERON MEADOWS—CAMERON PARISH

Humble O. & R. Co.'s No. 4 Cameron Meadows, 360 ft. N, 600 ft. W, SE cor. Sec. 21-14s-13w ..... Drlg. shale 6,185 ft.
Humble O. & R. Co.'s No. 5 Cameron Meadows, 2,260 ft. W, 28 ft. S of NE cor. Sec. 21-14s-14w..... Driving piling.
Burton-Sutton Oil Co.'s No. 2 School Land, 1,866 ft. W, 150 ft. N of SE cor. Sec. 16-14s-13w ..... Drlg. shale 3,500 ft.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co. of La.'s No. 5 Myrtle Grove, 1,700 ft. N, 200 ft. W, SE SW cor. SW Sec. 52-9s-11e..... Drlg. shale 4,035 ft.

EDGERLY—CALCASIEU PARISH

S. A. Emerson's No. 13 Hunter, 465 ft. N, 90 ft. E, SW cor. Sec. 21-9s-11w (W.O.) ..... Standing 4,118 ft.
Union Sulphur Co.'s No. 1 Hunter, 210 ft. E, 1,260 ft. N of SW cor. SE Sec. 21-9s-11w ..... Drlg. shale 4,695 ft.
Yount Lee Oil Co.'s No. 1 Sulphur Mining Co., 150 ft. S, 300 ft. W, NE cor. Sec. 33-9s-11w ..... Drlg. sand 6,010 ft.

GARDEN ISLAND—PLAQUEMINES PARISH

Texas Co.'s No. 10 Garden Island ..... Drlg. sand 1,490 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 6 Alliance Trust, 667 ft. E, 1,787 ft. S line of lease, Sec. 34-11s-1w ..... Rigging up.

Pure Oil Co.'s No. 5 Mulvey, 500 ft. from No. 2 Mulvey, in line with Nos. 1 and 2 ..... Sand 4,580 ft.; reaming.

HACKBERRY—CAMERON PARISH

Wilford Lahay et al's No. 1 Roux (W.O.) ..... Drlg. shale 3,816 ft.

Red Kelly Oil Co.'s No. 1 Duhon, 200 ft. S, 500 ft. E, NW cor. Sec. 27-12s-10w ..... Rigging.

Texas Co.'s No. 11-B State ..... Derrick.

Union Sulphur Co.'s No. 1 Barber est., 1,720 ft. N line, 330 ft. E of SW cor. Sec. 12-12s-10w ..... Drlg. shale 7,070 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Barnsdall Oil Co.'s No. 3 Fontenat, 1,627 ft. S, 330 ft W from SW cor. Sec. 7-9s-6w ..... Drlg. shale 6,598 ft.

Magnolia Pet. Co.'s No. 1 Le Blew, 670 ft. W, 330 ft. S of NE cor. SE Sec. 14-9s-7w ..... Drlg. sand 6,934 ft.

Magnolia Pet. Co.'s No. 5 Waite, 660 ft. E, 300 ft. N, SW cor. SE Sec. 12-9s-7w ..... Drlg. sand 6,367 ft.

Shell Pet. Corp.'s No. 1 Arcoin, 330 ft. out of NW cor. 80-ac. tract, Sec. 7-9s-6w ..... Drlg. shale 1,537 ft.

Shell Pet. Corp.'s No. 1 Tuten, 365 ft. S, 330 ft. W of NE cor. SW Sec. 13-9s-7w ..... Drlg. sand 6,636 ft.; showing oil.

Shell Pet. Corp.'s No. 1 Johnson, 265 ft. S, 330 ft. E of NW cor. SW Sec. 18-9s-6w ..... Drlg. shale 6,493 ft.

Shell Pet. Corp.'s No. 1 C. Le Blew, 660 ft. W, 330 ft. N of SE cor. of lease ..... Drlg. shale 5,810 ft.

JENNINGS—ACADIA PARISH

S. Rhodes' No. 104 Latrielle (W.O.), Sec. 47-9s-2w ..... Comp. 30 bbls.; pumping, 1,988 ft.

Yount Lee Oil Co.'s No. 13 Houssiere-Latrielle, Sec. 47-9s-2w, 300 ft. E of No. 12 ..... Drlg. shale 6,870 ft.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 10 L.L.&E., 4,543 ft. S, 503 ft. W of NW cor. Sec. 30-21s-20 ..... Derrick.

Texas Co.'s No. 22 State-Lake Barre, 150 ft. northerly from No. 18 ..... Drlg. sand 5,550 ft.

Texas Co.'s No. 20 State-Lake Barre, 392 ft. northerly from No. 22, Sec. 30-21s-20e ..... Derrick.

Texas Co.'s No. 25 State-Lake Barre ..... Drlg. shale 3,445 ft.

Texas Co.'s No. 26 State-Lake Barre, 150 ft. northerly from No. 22 ..... Derrick.

LAKE WASHINGTON—PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 3 La. State, Twp. 20s-28e, 2,920 ft. N, 19 ft. E of station ..... Drlg. shale 3,856 ft.

LEESVILLE—LAFOURCHE PARISH

Gulf Ref. Co.'s No. 1 Community, Blk. C, 151 ft. N of S line, 100 ft. E of E bank of Bayou La Fourche, Sec. 23-21s-22e ..... Drlg. shale 4,660 ft.

Gulf Ref. Co.'s No. 1 Community, Blk. E, 151 ft. N of S line, 150 ft. E of E bank of Bayou La Fourche, Sec. 23-21s-22e ..... Derrick.

Gulf Ref. Co.'s No. 1 Le Fort, 100 ft. N of S line, 100 ft. W of N bank of Bayou La Fourche, Sec. 23-21s-22e ..... Drlg. shale 5,180 ft.

Hellis et al's No. 1 State-Bayou Lafourche, 315 ft. N along W side of bayou at R/A, 95 ft. E at R/A from SE cor. Lot 3, Sec. 26-21s-22 ..... Drlg. gumbo 1,100 ft.

Texas Co.'s No. 3 L.L.&E., 2,321 ft. due S, 450 ft. W from NE cor. Sec. 27-21s-22e ..... Drlg. sand 3,260 ft.

Texas Co.'s No. 10 L.L.&E., 3,500 ft. due S, 375 ft. due W of NE cor. Sec. 27-21s-22e ..... Drlg. shale 1,310 ft.

R. Y. Walker's No. 1 State-Bayou Lafourche, 930 ft. N along W line of Lot 6 from SW cor. section, thence 430 ft. at R/A, Sec. 26-21s-22 ..... Moving in material.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 7 Farquaher, 330 ft. S, 174 ft. W of NE cor. SW NE Sec. 8-10s-9w ..... Derrick.

Magnolia Pet. Co.'s No. 11 Bordages, 660 ft. N, 490 ft. W of SE cor. NE NE Sec. 8-10s-9w ..... Drlg. shale 5,714 ft.

Magnolia Pet. Co.'s No. 4-A Watkins fee, 685 ft. E, 200 ft. N of SW cor. NW NE Sec. 9-10s-9w ..... Drlg. shale 6,701 ft.

Union Sulphur Co.'s No. 1 Farquaher, 200 ft. S and W lines, NE cor. SW SE Sec. 36-12s-10w, 2-ac. tract .... Drlg. gumbo 5,810 ft.

PORT BARRE—ST. LANDRY PARISH

Cale O. & G. Co.'s No. 1 Thompson ..... Comp. 500 bbls.; ½-in. choke, 3,480 ft.

Gulf Ref. Co.'s No. 5 Wilson-Cockran, 600 ft. N, 910 ft. E of No. 2, Sec. 4-6s-5e ..... Drlg. gumbo 1,300 ft.

Texas Co.'s No. 17 Botney Bay, 1,800 ft. S 8 deg. W, 400 ft. N 82 deg. most southern NE 660 deg. tract, Sec. 4-6s-5e ..... Derrick.

Texas Co.'s No. 18 Botney Bay ..... Sand 3,419-93 ft.; cmtd. csg.

Texas Co.'s No. 19 Botney Bay ..... Derrick.

Texas Co.'s No. 1 Perkins, 2,501 ft. S, 1,003 ft. E of NW cor. Sec. 21-6s-5e ..... Drlg. gumbo 1,170 ft.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 2 Lacy White Fraink, 1,175 ft. N, 1,615 ft. W of SE cor. Sec. 16-10s-4e ..... Drlg. shale 4,550 ft.

Union Sulphur Co.'s No. 25 United Land ..... Drlg. shale 4,368 ft.

STARKS—CALCASIEU PARISH

Union Sulphur Co.'s No. 4 Industrial Lbr. Co., 2,254 ft. from W, 2,116 ft. from S line, NE cor. Sec. 30-9s12w. Drlg. shale 1,156 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 787 fee, 119 ft. from N line, 1,632 ft. from W line of C Sec. 29-9s-10w ..... Drlg. shale 4,160 ft.

Union Sulphur Co.'s No. 788 fee, 602 ft. S, 1,209 ft. W. of C Sec. 29-9s-10w ..... Drlg. rock 3,650 ft.

Union Sulphur Co.'s No. 789 fee, 1,653 ft. N, 795 ft. E, C. Sec. 29-9s-10w ..... Drlg. shale 1,962 ft.

Union Sulphur Co.'s No. 790 fee, 929 ft. S and 802 ft. W of center of Sec. 29-9s-10w ..... Derrick.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 12 Yount Lee fee, 800 ft. S of No. 11, in line with Nos. 9 and 11, Sec. 12-12-3w ..... Rigging.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 16 Gray, 426 ft. N, 658 ft. E of SW cor. Sec. 33-10s-12w ..... Drlg. shale 891 ft.

Starks & Broker's No. 11 A. J. Vincent, NW cor. SE Sec. 33-10s-12w ..... Moving in material.

Wilson Broach's No. 10 Wilson Strip, 650 ft. N, 379 ft. E, SW cor. SE NE Sec. 33-10s-12w ..... Derrick.

Wilson Broach Co.'s No. 12 Wilson Strip, 350 ft. N, 643 ft. E of SW cor. SE NE Sec. 33-10s-12w ..... Drlg. gumbo 3,032 ft.

Wilson Broach Co.'s No. 13 Wilson strip, 50 ft. N and 907 ft. E of SW cor. of Sec. 33-10s-12w ..... Derrick.

Gulf Ref. Co.'s No. 8 Gardner, 350 ft. from S line in center Strip No. 6, Sec. 33-10s-12w ..... Comp. 300 bbls.; ½-in. choke, 3,771 ft.

Gulf Ref. Co.'s No. 71 Gardner, 352 ft. W, 50 ft. S of NE cor. NE SE Sec. 33-10s-12w ..... Drlg. sand 2,815 ft.

Union Sulphur Co.'s No. 1 Vincent ..... Drlg. shale 4,928 ft.

Vinton Pet. Co.'s No. 59 Gray (W.O.) ..... Drlg. sand 2,493 ft.

L. N. York's No. 1 Mayo (W.O.) ..... Drlg. sand 3,188 ft.

Wildcat Operations in Southwest Texas

(Continued from Page 45)

W. L. Umburn's No. 1 Otto Jackel, 150 ft. from S and E lines of Jackel 391-ac. tract in Samuel McCulloch Sur. No. 54 ..... T.D. 850 ft.; hole caving.

BLANCO COUNTY

Blanco Development Co.'s (McGee) No. 1 A. J. Dittmar, 1,320 ft. from S line, 150 ft. from W line of George Evans Sur. No. 58, 4 miles NW of Johnson City ..... T.D. 1,210 ft.; trying to shut out wtr.

CALDWELL COUNTY

R. L. Batts' No. 3 Roebuck, 4,100 ft. from NE line, 1,550 ft. from SE line of A. Swift Sur. ..... T.D. 2,891 ft.; abd.; dry.

F. L. Thomson's No. 2 Lawler, 150 ft. from NW line, 450 ft. from SW line and road in J. H. Lawler's 134-ac. tract in James Berry Sur. ..... T.D. 2,403 ft.; abd.; dry.

COMAL COUNTY

Theo. Hicks et al's No. 1 Gruene, 425 ft. from NE line, 414 ft. from NW line of H. Foster Sur. No. 34, 3 mi. NE from New Braunfels ..... Spudding.

DE WITT COUNTY

Bunte, Inc.'s No. 1 Hilgartner, 330 ft. out of SE cor. of W 200 acres of Hilgartner's 415-ac. tract in Caleb Wilburn Sur. ..... T.D. 2,950 ft.; drlg.

DUVAL COUNTY

Eaton et al's No. 1 Herbst, 1,650 ft. from E line, 330 ft. from S line in S.A.&M.G. Sur. No. 71 ..... T.D. 1,850 ft.; drlg.

O. W. Killam's No. 3-A Wood-Welder, 100 ft. N of No. 3, 6,223 ft. from S line and 200 ft. from W line of Sur. No. 102 ..... T.D. 665 ft.; drlg.

W. A. Smith's No. 1 Holzapfel, west central part of lease, 900 ft. W of NE cor. of Sur. 344 and 159 ft. from N line of Sur. No. 42 ..... T.D. 2,200 ft.; standing.

Shasta Oil Co.'s No. 1 Well, 1,250 ft. from NE line, 1,250 ft. from NW line of Sur. No. 566 ..... T.D. 1,660 ft.; drlg.

Whitting's No. 1 Duval County Ranch Co., 1,511 ft. from S line, 2,143 ft. from W line of Blk. 21, of Sur. No. 196 ..... T.D. 2,250 ft.; drlg.

EDWARDS COUNTY

Love and Evans' No. 1 Steve Brown, 660 ft. from N and E lines of Sec. 66, G.W.T.&P.R.R. Sur., 15 miles W of Rock Springs ..... T.D. 3,002 ft.; at contract depth; waiting on heavier rig.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Frank Doering, 34 ft. from W line, 1,700 ft. from S line of Tract No. 7 in Marcia Louisa Carranza Sur. No. 302 ..... T.D. 6,064 ft.; set 7-in. pipe at 6,057 ft.

GONZALES COUNTY

Volz & Shelling's No. 1 Bennett Botts et al, 150 ft. from W line, 800 ft. from N line of 420-ac. tract, lease in Gonzales Sur. ..... T.D. 500 ft.; drlg.

GUADALUPE COUNTY

A. F. Barnhill's No. 3 F. A. Phullman, 1,300 ft. from N line, 152 ft. from E line of lease in L. Bollinger Sur. ..... Rigging up.

L. E. Trout's No. 1 Mrs. M. McKee, 650 ft. from W and 150 ft. from N line of 239-ac. tract in Green Dewitt Sur., 4 miles SW from Darst Creek ..... Delayed finding a contractor.

JIM HOGG COUNTY

Navarro Oil Co.'s No. 1 Trevino, 330 ft. from N line, 400 ft. from E line of 1,500-ac. tract in I.&G.N. R.R. Sur. ..... T.D. 2,700 ft.; drlg.

JIM WELLS COUNTY

Plymouth Oil Co.'s No. 1 Cuero Cattle Co., 330 ft. from S and W lines of H.T.&B. Sur. No. 7, 2½ miles W from Alfred ..... Rigging up.

Trinity Drillers' No. 1 Seeligson, 330 ft. from N and E lines of Sec. 71, of R. P. Haldeman Subd., and in S.K.&K. Sur. No. 215 ..... T.D. 3,872 ft.; trying to test sand 3,858-72 ft.; reported in error as testing 4,440-44 ft.; drlg. ahead.

KARNES COUNTY

Campbell et al's No. 1 Ira Coats, 330 ft. from S and E lines of 260-ac. tract in Carlos Martinez Sur. .... Derrick.

C. J. Webster's No. 1 J. B. Cannon, 1,140 ft. from N line, 250 ft. from E line of 80-ac. tract in Lambrano Sur. ..... T.D. 1,790 ft.; drlg.

KENDALL COUNTY

A. P. Pierce's No. 1 Werner, in SW cor. of 40-ac. tract, 150 ft. from S and W lines, in J. F. Torrey Sur. .... T.D. 979 ft.; in hard lime.

W. E. Waldrip's No. 1 Charles Meckel, 300 ft. from E line, 8,300 ft. from S line of Thos. J. Sweeney Sur. No. 10 ..... T.D. 415 ft.; drlg.

KERR COUNTY

J. E. Anderson's No. 1 J. D. Witt, 1,320 ft. from N line, 1,220 ft. from W line of Sec. 1,923, in Hamilton Sur., 4 miles S of Center Point ..... T.D. 1,885 ft.; standing in shale and sand.

Van Duyn & Moore's No. 1 Nowlin, 2,000 ft. from E line, 2,200 ft. from N line of Jas. R. Bettner Sur. No. 99 ..... T.D. 1,040 ft.; standing.

LA SALLE COUNTY

Equity Oil Co.'s No. 1 Rogers, 202 ft. from E line, 455 ft. from S line of lease in Atascosa County School Land Sur. No. 300 ..... T.D. 375 ft.; abd.; dry.

W. H. Wallace's No. 1 H. C. Yeager, 150 ft. from S and E lines of Sur. No. 95 ..... T.D. 2,263 ft.; standing.

LIVE OAK COUNTY

H. Coquat et al's No. 1 Burgess, 990 ft. from W line of Sec. 77, 33 ft. from N line of Simmons Subd. in farm tract No. 3,487 ..... Rigging up.

Stuart Mossman's No. 1 W. J. Armstrong, 2,970 ft. from S line, 330 ft. from W line of 269-ac. tract in Henry Sur. ..... Moving in.

McMULLEN COUNTY

Armoil Prod. Co.'s No. 1 Kate Martin, 1,470 ft. from SE line, 1,470 ft. from SW line of H.T.&B. Sur. No. 9 ..... T.D. 1,480 ft.; drlg.

Pitkin-Goldston Oil Co.'s No. 1 Hagist, 330 ft. from N line, 900 ft. from E line of G. B. McKinney Sur. No. 467 ..... T.D. 2,370 ft.; tested S.W.

Smith & Mowinkle's No. 1 C. L. Wulf, 1,517 ft. from S line, 188 ft. from W line of E½ Sec. 12 of Wentz Subd. ..... T.D. 1,629 ft.; drlg.

Two Rivers Oil Co.'s No. 2 Wulf, 330 ft. from W line, 100 ft. from N line of Sec. 64 of Two Rivers Ranch Subd. ..... T.D. 310 ft.; preparing to test.

MEDINA COUNTY

O. R. Framme's No. 1 E. Boelke, 987 ft. from N line, 600 ft. from E line of 102-ac. tract in S. Huth Sur. No. 10 ..... T.D. 650 ft.; drlg. shale.

MILAM COUNTY

O. H. Birdwell's No. 1 J. R. Bartek, 150 ft. from N line, 180 ft. from W line of 88-ac. tract in J. A. de Pena Sur. ..... Rigged up.

B. F. Robinson's No. 1 W. M. Caffey, 150 ft. N and E. of SE cor. of B. P. Duncan Sur. in SW cor. of 50-ac. Caffey tract in J. Bright Sur. ..... T.D. 1,060 ft.; drlg.

NUECES COUNTY

A. C. Erwin's No. 1 Sagarin, 520 ft. from N. 160 ft. from E line of 35-ac. tract in Sec. 4, H. L. Kenney Sur. ..... T.D. 4,408 ft.; drlg.

Texon Royalty Co.'s No. 1 McCoy, 330 ft. from W line, 3,330 ft. from S line, in Sec. 3 of Palo Alto Sur. .. T.D. 5,500 ft.; fishing for 59 fourbles of drill pipe lost while testing sand at 5,488-95 ft.

STARR COUNTY

Accumulative Royalty Co.'s No. 1, Martinez, 800 ft. from S line, 500 ft. from W line of C.C.S.D.&R. G.N.O. Sur. No. 217 ..... T.D. 2,865 ft.; S.D.

B. & B. Oil Co.'s No. 2 Kelsey Bass, 330 ft. from W and S lines of Blk. 12 of Subd. of Porcions 86 and 87, jurisdiction Camargo ..... Rigging up.

Danvers & Haadon's No. 1 C. Ramos, 2,310 ft. from SE line, 330 ft. from SW line of Sur. No. 150 ..... Rigging up.

Goodwin & Yantis' No. 4 Kelsey Bass, 330 ft. from N and E lines, Sec. 4, of subd. of Porcions 86 and 87.. T.D. 690 ft.; cored sand; set csg.

Goodwin & Yantis' No. 3 Kelsey Bass, 150 ft. from S and E lines of Blk. 3, Coast O. & G. Subd. of Secs. 2 and 3, Porcions 86-87 ..... T.D. 1,040 ft.; standing.

Great Plains Oil Co.'s No. 1 Sanchez, 660 ft. from W line, 330 ft. from S line of SE NW of Sur. No. 344..T.D. 3,865 ft.; drlg.
Myers, Sullivan & Jenkins' No. 1 Starr County Cattle Co., 330 ft. from N line, 330 ft. from W line, Blk. 62, Porcion 89, Share 60 .....T.D. 2,520 ft.; standing.
R. D. Perkins & Hoffman's No. 1 E. A. Peffler, 3,990 ft. from W line, 2,480 ft. from S line of Sur. 932..T.D. 365 ft.; standing.

TRAVIS COUNTY

Franklin et al's No. 1-A Reimers, 1,200 ft. from SE line, 1,600 ft. from most southerly SW line of Sur. No. 35 .....T.D. 926 ft.; drlg.
Marts & Beavens' No. 1 Mrs. A. Bengston, 150 ft. from SE line, 2,200 ft. from NE line fo Thos. Smith Sur...T.D. 686 ft.; drlg. hard dry Serpentine.
Weaver & Osborn's No. 1 Will Reinhardt, 300 ft. from NW line, 1,200 ft. from NE line of Will Reinhardt 100-ac. tract in William Lewis, Jr., Sur. 2 .....T.D. 248 ft.; standing.

UVALDE COUNTY

Frank A. Brown's No. 1 Milliken, 1,800 varas from W line which is Sabinal River, and 108 varas from S line of Antonio Cruz Sur. No. 383 .....T.D. 550 ft.; drlg.

WEBB COUNTY

Frank Garvis' No. 1 Yeager-Stroman, 200 ft. from S line, 450 ft. from E line of Share 5 in Los Animas grant .....T.D. 2,198 ft.; standing.
L. E. Lockhart's No. 1 E. Eikel, 330 ft. from N line, 260 ft. from E line of Sur. No. 1,672 .....Rigging up.
Weekly Oil Co.'s No. 1 Laurel Bros., 330 ft. from N and W lines of SW of Sur. No. 1,103 .....T.D. 800 ft.; drlg.

WILSON COUNTY

Humble O. & R. Co.'s No. 1 Houston, 900 ft. from SE line, 450 ft. from SW line of tract in Joseph Reynold's Sur. .....T.D. 4,755 ft.; drlg.; expect to find Edwards 5,120 ft.

WILLIAMSON COUNTY

R. L. Batts et al's No. 1 Rumel, 18 ft. from E line, 480 ft. from S line of 100-ac. tract in Booth Sur.....T.D. 1,300 ft.; dry and abd.
McLean et al's No. 2 R. C. Miller, 800 ft. to S line, 100 ft. to W line of tract, B. Manlove Sur. .....T.D. 2,300 ft.; standing.
Pederson's No. 1 Forwood, 900 ft. from N and 1,200 ft. from E line of 160-ac. tract in Fisher Sur. .....T.D. 950 ft.; S.D.

ZAPATA COUNTY

F. G. Delaney's No. 1 Leonard Haines estate, 330 ft. from SE line, 2,970 ft. from SW line of Villa Grant Sur. .....T.D. 1,805 ft.; drlg.
J. P. Doyle's No. 1 L. Ramires, 150 ft. from NW and SW lines of Blk. 15, Share 1, Porcion 18 .....T.D. 40 ft.; spudded in; S.D.
Muckelroy's No. 1 Flores, on NE line and 75 ft. from SE line of Lot 2, Blk. 30, Muckelroy Subd. of Porcion No. 37 .....Derrick.
Arthur W. Wray's No. 4 Gopher Trust Est., Sur. No. 1 of Fullerton Subd. of Share 9 of J. V. Borrego.....T.D. 359 ft.; comp. 3,000,000 ft. gas.

Southwest Texas Proven Areas

Week Ending December 30

CEDAR CREEK POOL—BASTROP COUNTY

Cole Pet. Co.'s No. 3 American Natl. Bank, 350 ft. W of No. 1 in R. Gage Sur. .....Rigging up.

HILBIG POOL—BASTROP COUNTY

Humble O. & R. Co.'s No. 2 F. O. Beck, 45 acres, 430 ft. from NE line of survey and tract, 750 ft. from SE line of tract, or 1,000 ft. SE of No. 1 in Andrew Mays Sur. .....Rigging up.

NORTH DALE POOL—BASTROP COUNTY

Marts & Beavens' No. 4 C. L. Riddle, 1,850 ft. from SW line, 200 ft. from NW line of J. Maxmillian Sur. ..T.D. 2,075 ft.; comp. 80 bbls. dly.
Ogden & Reed's No. 1 C. L. Riddle, 150 ft. from NW line, 3,750 ft. from SW line of Maxmillian Sur. ....T.D. 2,305 ft.; swbd. a little oil; treating with acid.

TULETA POOL—BEE COUNTY

Garland Clymore's No. 1 Rapp & Hatch, 650 ft. E along the S line from R.R., thence 1,350 ft. N at R/A in Sec. 12 of J. M. Uranga Sur. .....Moving in rig.

PETTUS POOL—BEE COUNTY

United Prod. Co.'s No. 3 Ray, 3,388 ft. from N line, 958 ft. from E line of Moore Sur. .....T.D. 6,054 ft.; W.O. job; being P.B. to Pettus sand at 4,054 ft.; swabbing.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 2 Coreth, 300 ft. SE of Humble's No. 2 Coreth in A. Stafford Sur. .....T.D. 995 ft.; S.D.
F. H. Eckert & Son's No. 3 Louis Brehm, 550 ft. from W line, 150 ft. from S line of 93-ac. tract in P. L. Buguor Sur. .....Drlg.
Gatlin Oil Co.'s No. 18 Beck, 545 ft. from E line, 1,051 ft. from S line of 279-ac. tract in Juan Montez Sur. .....T.D. 525 ft.; drlg.
J. F. Harrison's No. 1 F. Gembler, 150 ft. from NW line, 460 ft. from NE line of 88-ac. tract in J. Montes Sur. .....T.D. 831 ft.; S.D.
S. J. Moore's No. 2 T. W. Masterson, 150 ft. from S line, 175 ft. from W line of 41-ac. tract in Miguel Gortaris Sur. .....T.D. 550 ft.; drlg.
Swearingen Oil Co.'s No. 16 Halbardier, 150 ft. from N line of tract, 2,625 ft. E of NW cor. of survey in Jose M. F. Perez Sur. No. 57 .....T.D. 670 ft.; set csg.
Trio Oil Corp.'s No. 6 Sandemer, 800 ft. from E line, 180 ft. from S line of 109-ac. tract in Anton Manchaca Sur. No. 51 .....T.D. 638 ft.; standing 300 ft. oil; 150 lbs. gas pressure.

VON ORMY POOL—BEXAR COUNTY

Von Ormy Oil Co.'s No. 2 E. B. Carruth, 515 ft. from W line, 1,970 ft. from S line of 160-ac. tract out of 667-ac. tract in F. Rolen Sur. .....Rigged up and standing.

DUNLAP POOL—CALDWELL COUNTY

Bob Rose's No. 1-B J. M. Price, 150 ft. from NE and SE lines of J. M. and O. Pierce 100-ac. tract in S. Seal Sur. .....T.D. 2,540 ft.; abd.; dry.

WEBSTER POOL—CALDWELL COUNTY

C. J. Webster O. & G. Co.'s No. 2 McCroy, 750 ft. from S line, 150 ft. W of NE cor. of tract in John A. Neill Sur. .....T.D. 2,276 ft.; P.B. to 600 ft. to make gas well.

EAGLE HILL POOL—DUVAL COUNTY

Al Buchanan's No. 3 Duval County Ranch Co., 330 ft. from S line, 2,310 ft. from E line of N½ of Sur. No. 206 .....Location.
R. D. Kelley's No. 2 Foster, 1,650 ft. from E line of survey, and 990 ft. S of N line of S½ of Sur. No. 206..T.D. 1,484 ft.; swbng.
Al Buchanan's No. 2-B Foster, 330 ft. from S and E lines of N 100 acres of W 200 acres of S½ of Sur. No. 206 .....Rigging up.
Shasta Oil Co.'s No. 1 Foster, 330 ft. from N line, 330 ft. from E line of S½ of Sur. No. 206 .....T.D. 1,497 ft.; will make small well; showing S.W.
Texas Co.'s No. 7-A Duval County Ranch Co., 990 ft. from E line, 330 ft. from S line of N½ N½ of Sur. No. 206 .....Location; changed from 6-A to 7-A.
Texas Co.'s No. 7-A Duval County Ranch Co., 2,310 ft. from E line, 330 ft. from S line of N½ N½ of Sur. No. 206 .....T.D. 1,502 ft.; comp. 20 bbls. hrly.

EAST COLE POOL—DUVAL COUNTY

Cole Pet. Co.'s No. 2 S. Benavides, 350 ft. from SE line, 300 ft. from SW line of Blk. 347 Hale Subd. of Arispe grant .....T.D. 2,430 ft.; set csg.; tested 750 lbs. gas.
Motes-Campbell's No. 1 Brunl, 150 ft. from NE and SE lines of Sec. 493, Myrtle E. Hale Subd., Mariano Arispe grant .....T.D. 225 ft.; standing.

IGNACIO POOL—DUVAL COUNTY

DeSoto O. & G. Co.'s No. 3 Wood-Welder, 3,120 ft. from W line 1,170 ft. from N line of Sur. No. 211..Rigging up.

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Al Buchanan's No. 4 B. T. Ellison, 330 ft. from N and W lines of NE of NW of Sur. No. 44 .....T.D. 2,298 ft.; swabbing.
Al Buchanan's No. 4 B. T. Ellison, 330 ft. from N and W lines of NE NW of Sur. No. 44 .....T.D. 2,298 ft.; swabbing.
Humble O. & R. Co.'s No. 3 Duval County Ranch Co., 330 ft. from S line, 1,650 ft. from W line of NW of Sur. No. 362 .....T.D. 2,287 ft.; drlg.
Humble O. & R. Co.'s No. 27 C. W. Hahl, 1,650 ft. from S and E lines of E½ of Sur. No. 360 .....T.D. 2,324 ft.; swabbing.
Magnolia Pet. Co.'s No. 11 Duval County Ranch Co., 1,650 ft. from E line, 990 ft. from S line of Sur. No. 208 .....T.D. 2,331 ft.; comp. 7 bbls. hrly.
Magnolia Pet. Co.'s No. 12 Duval County Ranch Co., 2,310 ft. from E line, 990 ft. from S line of Sur. No. 208 .....T.D. 1,200 ft.; drlg.
Magnolia Pet. Co.'s No. 13 Duval County Ranch Co., 2,970 ft. from E line, 990 ft. from S line of Sur. No. 208 .....T.D. 2,329 ft.; comp. 8 bbls. hrly.
Magnolia Pet. Co.'s No. 11 Duval County Ranch Co., 1,650 ft. from E line, 990 ft. from W line of Sur. No. 208 .....Spudded in.
Magnolia Pet. Co.'s No. 13 Duval County Ranch Co., 2,970 ft. from E line, 990 ft. from S line of Sur. No. 208 .....T.D. 210 ft.; drlg.
Reynosa Oil Corp.'s No. 6-A Duval Ranch Co., 330 ft. from N and E lines of N½ of SW of Sur. No. 362...T.D. 2,290 ft.; tested S.W.; P.B. 4 ft.
Sun Oil Co.'s No. 16 Weiderkehr, 330 ft. from N line, 990 ft. from E line of Sur. No. 359 .....T.D. 2,325 ft.; drlg. in.
Sun Oil Co.'s No. 17 Weiderkehr, 990 ft. from N and E lines of Sur. No. 359 .....T.D. 2,320 ft.; ready to comp.; running tubing.
Sun Oil Co.'s No. 18 Weiderkehr, 2,970 ft. from N line, 330 ft. from E line of Sur. No. 361 .....T.D. 2,235 ft.; drilled in; running tubing.
Sun Oil Co.'s No. 19 Weiderkehr, 1,650 ft. from N line, 990 ft. from E line of Sur. No. 359 .....Rigging up and spudding.
Texas Co.'s No. 7 W. C. Riggs, 990 ft. from S line, 150 ft. from W line of E½ of NW of Sur. No. 46....T.D. 2,290 ft.; drlg.
Texas Co.'s No. 1-B Herman Wendt, center of E 70 acres of NW¼ of Sur. No. 43 .....T.D. 2,245 ft.; comp. 10,000,000 ft. gas; 600 lbs. pressure.
Texas Co.'s No. 1-B Wendt, center of E 70 acres of NW of Sur. No. 43 .....T.D. 2,245 ft.; tested gas; set. csg.
Texas Co.'s No. 7 W. C. Riggs, 990 ft. from S line, 150 ft. from W line of E½ NW of Sur. No. 46 .....T.D. 700 ft.; drlg.

SOUTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Bridwell's No. 2 C. W. Hahl, 860 ft. from S line, 200 ft. from W line of Sur. No. 250 .....T.D. 2,135 ft.; drlg.
Humble O. & R. Co.'s No. 15 Paul White, 2,600 ft. from E line, 200 ft. from N line of Sur. No. 58 ....T.D. 2,302 ft.; sand; oil odor.
Humble O. & R. Co.'s No. 12 Paul White, 1,650 ft. from S and E lines of Sur. No. 249 .....T.D. 2,288 ft.; flowing by heads; small well.
Rodney DeLange's No. 3 Lundell, 330 ft. from E line, 910 ft. from S line of SW¼ of Sur. No. 60 .....T.D. 2,200 ft.; coring.

SARNOSA POOL—DUVAL COUNTY

Wertheimer Oil Corp.'s No. 2 Hernendez, 658 ft. SE of No. 1, and 357 ft. NE of SW line of E¼ of Sur. No. 874 .....T.D. 2,408 ft.; drlg.

S. R. C. POOL—DUVAL COUNTY

S. R. C. Oil Co.'s No. 10 Duval County Ranch Co., 100 ft. from S line, 1,153 ft. from E line of Sur. No. 295. T.D. 1,780 ft.; drlg.

PALANGANO POOL—DUVAL COUNTY

J. W. Edwards' No. 1 Gravis, 1,670 ft. from NE line, 1,830 ft. from SE line of Sur. No. 2 .....T.D. 2,470 ft.; S.D. to repair boiler.

NEW BERLIN POOL—GUADALUPE COUNTY

J. A. Harper's No. 2 Rosenbrook, 660 ft. SW of No. 1...T.D. 701 ft.; standing.

JACOB POOL—McMULLEN COUNTY

Loma Oil Co.'s No. 18-A Jacobs, 660 ft. S of No. 11, in W. H. Jacobs Sur. No. 8 .....Derrick.
Longhorn Oil Co.'s No. 3-A Lark, 450 ft. from N line, 150 ft. from W line of Blk. 14, of Subd. of Lark land in E. W. B. Scrugham Sur. .....T.D. 1,030 ft.; C.O
Kennon & Stephenson's No. 1 Lark, 150 ft. from N and W lines of Blk. 15, subd. of Lark land in E. W. B. Scrugham Sur. .....T.D. 1,033 ft.; set csg.; W.O.C.

AGUA DULCE POOL—NUECES COUNTY

Garland Clymore's No. 1 Ollie Purl .....T.D. 4,858 ft.; 14 ft. in sand; tested 400 lbs. and some gasoline in 3 min.; setting csg.

CUEVITAS POOL—STARR COUNTY

Mims, Hamill & Evans' No. 1 M. Guerra, 330 ft. from E line, 330 ft. from S line of Share M-10, in Las Cuevitas grant .....T.D. 2,328 ft.; standing.
Sun Oil Co.'s No. 1-D Guerra, 6,353 ft. from NE line, 3,300 ft. from SE line of La Sacatosa grant .....Rigging up.
Sun Oil Co.'s No. 9-A Guerra, 4,620 ft. from NW line, 660 ft. from SW line of Share H-14-B, of Cuevitas grant .....T.D. 1,950 ft.; drlg.

LOS OLMOS POOL—STARR COUNTY

Los Olmos O. & G. Co.'s No. 57 Kelsey Bass, 150 ft. from N line, 568 ft. from W line of SE SW Sec. 6, Porcions 75, 76 and 77 .....T.D. 640 ft.; standing.

CAROLINA-TEXAS POOL—WEBB COUNTY

Carolina-Texas Oil & Gas Trust's No. 11 Benavides, 150 ft. from S line, 600 ft. from W line of Blk. 12 in Sur. No. 683 .....T.D. 2,512 ft.; standing.

LAUREL POOL—WEBB COUNTY

South Texas Prod. Co.'s No. 10 Laurel, 425 ft. from W line, 150 ft. from S line of Blk. 9, in Sur. No. 270..T.D. 2,272 ft.; testing.

WEST COLE POOL—WEBB COUNTY

Cole Pet. Co.'s No. 30 Rosa V. Benavides, 1,361 ft. from E line, 160 ft. from S line of Blk. 3, Sur. No. 412..T.D. 2,338 ft.; set csg.; W.O.C.

WEST COLE POOL—WEBB COUNTY

French Oil Co.'s No. 8-A Benavides, 760 ft. from W line, 1,790 ft. from S line of Sur. No. 659 .....Abd.

BYERSVILLE POOL—WILLIAMSON COUNTY

Fritz Fuch's No. 1 C. W. Johnson, 600 ft. from SE line, 700 ft. from NE line of tract in P. Cartwright Sur. .....Drlg. 956 ft.; W.O.C.
Taylor Prod. Co.'s No. 1 Reiger, 750 ft. from NW line (creek), 150 ft. from NE line of L. Reiger 154-ac. tract in P. Cartwright Sur. .....T.D. 985 ft.; comp. 25 bbls. dly.; 15% wtr.

ESCOBAS POOL—ZAPATA COUNTY

Texas Co.'s No. 35 Whitehead, 2,798 ft. from SE line, 20,442 ft. from SW line of Cerrito Blanco grant....T.D. 1,914 ft.; drlg.
W. E. West and J. P. Perry's No. 1 Garcia, 1,200 ft. from NW line, 200 ft. from NE line of Share 3 of Comitas grant .....T.D. 225 ft.; standing.

JENNINGS POOL—ZAPATA COUNTY

United Prod. Corp.'s No. 11 Measles, 3,483 ft. from NW line, 16,500 ft. from SW line of Cerrito Blanco grant .....T.D. 4,476 ft.; comp. 10,000,000 ft. of gas; P.B. to sand 1,360-69 ft.

MARTINEZ POOL—ZAPATA COUNTY

W. R. Shankle and Wm. McGinley's No. 2 Manuel Trevino heirs, 330 ft. from W line, 150 ft. from S line of Blk. 15, Sur. No. 411 .....Rigged up.

MIRANDO VALLEY POOL—ZAPATA COUNTY

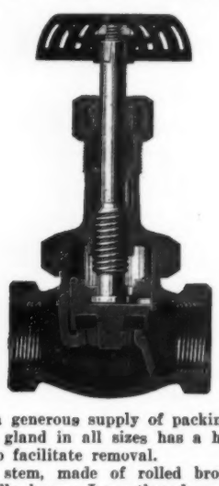
Blair & Blankenship's No. 1 R. Hinnant, 450 ft. from S line, 300 ft. from W line of Blk. 16, Sur. No. 116..T.D. 1,120 ft.; drlg.

NEW AND IMPROVED EQUIPMENT

Lunkenheimer Announces Nonmetallic Disc Valve

The Lunkenheimer Co., of Cincinnati, Ohio, has announced a nonmetallic disc bronze valve designated as Figure 123 N-M-D, suitable for 150 pounds steam pressure and 300 pounds gas-liquid pressure.

The Figure 123 has a deep nonheat malleable iron handwheel with an easy grip. The stuffing-box is extra deep and



holds a generous supply of packing. The bronze gland in all sizes has a hexagon head to facilitate removal.

The stem, made of rolled bronze, is unusually heavy. Long threads are fully engaged with bonnet thread when the valve is closed. The shoulder above the stem thread seats tightly against the bottom of the stuffing-box, making the valve repackable under pressure.

The one-piece bronze bonnet screws over the sturdy body neck and the flat face bonnet joint is easy to clean. The body is well proportioned with full-flow areas. An exceptionally heavy body neck prevents distortion and makes a secure bonnet connection. Long pipe threads provide leak-tight connections.

The disc holder is of the slip-on type. A turn or two of the handwheel before removing the bonnet prevents the disc-holder from dropping off. Extra long guides insure accurate seating. Lugs are provided for wrench hold when removing disc. The beveled extension protects the spud threads. Nonmetallic discs are produced for maximum life. Three basic types are offered, steam, hot water, cold water, gas and air.

Lunkenheimer Bronze N-M-D valves are regularly available in several designs, globe, angle, horizontal and angle check, spring check for compressor service and quick operating.

RYERSON EXTENDING PLANT

Joseph T. Ryerson & Son, Inc., Chicago, have under way an extensive addition to their St. Louis Steel-Service Plant. The new building will increase facilities for storing and dispatching steel and allied products from that point. New, modern offices equipped with an air-conditioning and cooling system will be included in the unit. The greater part of this new addition will be given over to the warehousing of products requiring particular protection from atmospheric changes. A circulating warm air heating system will provide the necessary distribution of heat for the proper storing of sheets, tool steels, welding rod, cold-rolled bars, bands, hoops and other high-grade steels. The new heated area will be almost three times larger than the present heated plant.

Notes About Trade Literature

A catalog devoted to the Abercrombie-Shimek weight recorder may be obtained by writing to the Cameron Iron Works, Houston, Tex., which is marketing this appliance.

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The Harbison-Walker Refractories Co., Pittsburgh, Pa., has issued a four-page bulletin describing Harwaco bond, for use with fireclay brick in the construction of boiler settings, gas-producer linings, heating furnaces, oil burner installations, oil still settings, etc.

—

American Steel & Wire Co. is distributing through its sales offices a 70-page revised catalog of wire lines for drilling oil, gas and water wells.

—

Motor Mechanics' Handbook No. 33, a 32-page volume telling how to service flywheels, pistons, brake-drums, connecting rods, valves, armatures, bushings and differentials, may be obtained by writing to the South Bend Lathe Works, 335 East Madison Street, South Bend, Ind.

—

"It bucked the world's greatest depression," declares a 12-page folder in which the Brown Instrument Co., Philadelphia, Pa., recounts how the Brown potentiometer has served the industry. The folder and Catalog 1,101, describing 55 features of the potentiometer, are sent on request.

Two booklets obtained from the Hinde & Dauch Paper Co., Sandusky, Ohio, are "Corrugated Boxes and How to Use Them" and "Permissible Packages for Special Commodities."

—

The Republic Flow Meters Co., 2240 Diversey Parkway, Chicago, has issued a 24-page catalog, No. 700, describing the principle of the electric resistance type of flow measurement.

—

The Worthington Pump & Machinery Corp., Harrison, N. J., is distributing a 28-page bulletin on horizontal duplex motor-driven feather-valve compressors and a four-page one on Monoblock centrifugal pumps.

—

J. J. Fitzpatrick, 1128 South Newport Avenue, Tulsa, sends on request a folder describing the "Fitz" sucker-rod coupling, which is said to embody marked advantages.

—

Of special interest to refiners is a chart accompanying issue No. 5 of the Armstrong Trap Magazine, published by the Armstrong Machine Works, 867 Maple Street, Three Rivers, Mich. The chart, which is copyrighted, shows some of the uses for steam traps in refineries. Copies of the issue may be obtained by writing to the company.

Device Controls Stroking Rate of Oil Refinery Pump

Tret-O-Control, a new device developed by Proportioneers, Inc., Providence, R. I., is designed to control steam-driven reciprocating pumps in their stroking rate so that pump delivery will be in proportion to variable flows of a primary or controlling liquid, thus enlarging the usefulness of these pumps.

In a typical and practical application of the device to an oil refinery problem it was desired to inject sulphur-saturated gasoline proportionately to a variable flow of main line gasoline. The variations in the main gasoline flow were to control changes in sulphur dosage so that a proportionate treatment would result.

The operation of the plant is as follows: The flow-responsive rotor inserted in the main gasoline line "feels" the flow rate passing through it. The r.p.m. of the rotor shaft transfers, through a thumbscrew adjustable speed changer, to a standard Tret-O-Control gear box pilot valve assembly. Thus the gasoline flow variations are registered in a changing stroke rate of the pilot valve.

Small compressed air supply feeds through the pilot valve to an impulse motor mounted at any remote point on a standard steam-drive reciprocating pump. The impulse motor strokes in proportion to gasoline flow and slides the steam valve of the Union pump so that the reagent end of the pump strokes in step with gasoline flow.

Briefly, the Tret-O-Control "feels" the gasoline flow rate and dictates a corresponding stroking rate to the steam pump. Once set for a given delivery, the steam pump delivery will remain in step with the gasoline flow. However, the operator at any time may adjust dosage of the secondary fluid by either of three optional means. A bulletin describing Tret-O-Control in detail may be obtained from the company.

Addis E. McKinstry Chosen Head of Harvester Company

International Harvester's board of directors elected Addis E. McKinstry to succeed the late Alexander Legge as president of the company. Mr. McKinstry was born January 27, 1870 near Eaton, Ohio. At 16 he got his first job in the employ of the Deering Harvester Co., handling repair parts at branch house in Mansfield, Ohio. He was not yet 24 when he was appointed a general agent, going first, in 1893, to Helena, Mont., and in 1895 to Galesburg, Ill. He was advanced to general traveler and then district sales manager with the eastern part of the United States and Canada as his territory.

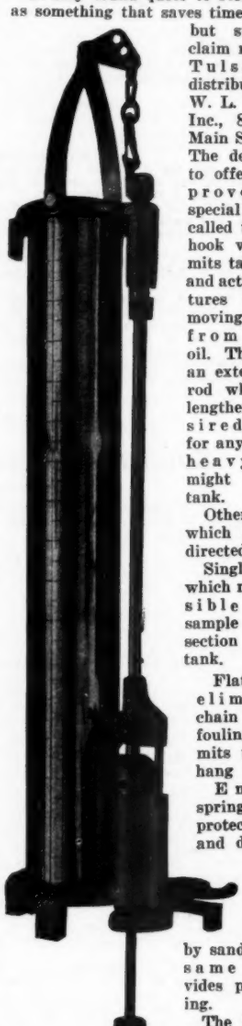
In 1903, the year after the formation of the International Harvester Co., Mr. McKinstry was given charge of Canadian sales. In 1907 he was appointed superintendent of the Harvester company's newly established plant in Hamilton, Ontario. Five years later he was appointed works manager in charge of the company's factories in the eastern United States and in Canada. In 1919 he was elected a vice president, and in 1925 a director. In 1932 he was elected first vice president.

CATERPILLAR MAKES CHANGES

George L. Bell, vice president in charge of sales and director of Caterpillar Tractor Co., is resigning as of January 1, 1934, to become executive director of the men's clothing manufacturing industry in the United States, with power to enforce trade practice provisions of the NRA code. With Mr. Bell's departure, H. P. Mee, vice president and treasurer of Caterpillar company will be in charge of sales, and H. M. Hale, assistant treasurer, will take over the present duties of Mr. Mee.

Many Important Features Distinguish New Oil Thief

It may sound queer to refer to a thief as something that saves time and money, but such is the claim made for the Tulsa oil thief, distributed by the W. L. Walker Co., Inc., 800 South Main Street, Tulsa. The device is said to offer many improvements, and special attention is called to the side hook which permits taking gravity and actual temperatures without removing the thief from the tank of oil. There is also an extension trip rod which can be lengthened, if desired, to provide for any quantity of heavy b.s. that might be in the tank.



Other features to which attention is directed are:

Single chain trip, which makes it possible to obtain a sample from any section of the oil tank.

Flat bale, which eliminates all chain sliding and fouling and permits the thief to hang plumb.

Enclosed springs, which protect from sand and dirt.

Rotating valve, which eliminates scoring by sand and at the same time, provides perfect seating.

The Tulsa oil thief is provided with cast bronze rings at top and bottom, which are pressed on to tubing against turned shoulders. The tube is then expanded and the bale pins at the top are riveted through the top ring and tube.

RYERSON BUYS BACON & CO.

Joseph T. Ryerson & Son., Inc., of Boston, New York and Chicago, has purchased the stock and good will of Bacon & Co., iron and steel concern of Boston. Bacon & Co. was organized in 1868 by Josiah E. Bacon. In 1869 the firm of Beacon & Brown was formed. Mr. Bacon, in 1878, retired from the firm and formed Bacon & Co. In 1881 he built his new plant, now located at 107-119 Oliver Street. The Ryerson company was established in 1842 and has plants in 10 principal industrial areas of the country.

The American Cyanamid & Chemical Corp., New York, has acquired the Maryland Chemical Co. of Baltimore, Md., which, under the direction of Samuel M. Leidy, as vice president and general manager, will be operated as a subsidiary.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing and transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Law of Capture and What It Has Meant in the Oil Industry

I see the expression "law of capture" used in connection with discussions of oil production, especially where they are dealing with oil conservation and what is called the unit plan of operation. Please tell me what the law of capture is.—F. W. N.

The following answer to your question is provided by J. B. Umpleby, petroleum engineer of Norman, Okla.:

"Probably more of the ills of the petroleum industry can be traced to the 'law of capture' than to any other cause. Shortly after the discovery of oil in America, at a time when the function of gas in the production of oil was wholly unrecognized, a Pennsylvania jurist called upon to adjudicate a dispute laid down the principle that oil and gas, like wild game, belong to him who reduces them to possession. This principle was followed by other jurists and became so well established that 'in the absence of legislative restraint the owner of land or his lessee may produce through his wells all of the oil and gas that he is able to extract from the reservoir beneath without regard to where in the reservoir he may draw from that he becomes the absolute owner of all thereof that he may reduce to possession.' It is inconceivable that, had our present knowledge of the function of gas in the production of oil existed at the time of these early decisions, piracy would have been thus legalized.

"Customs and practices within the industry in the United States follow logically this basic legal concept of ownership through capture. Obviously, offset drilling becomes mandatory. A wild rush for early completion of wells is an operator's only means of protecting his property. The development of reserves in the ground is almost impossible. No adequate protection is afforded against the waste of a vanishing national asset through overproduction. Alternate periods of feast and famine within the industry are inevitable. The owner of a valuable property must exhaust it as rapidly as possible, regardless of market conditions or his own needs, and trust to the hazardous chance of discovery for near future requirements. Vast quantities of crude oil, subject to evaporation losses, deterioration, and heavy carrying charges, must be stored at the surface instead of being held in its native reservoir. Tremendous holdings of scattered acreage must be carried by companies against the probability that a new discovery will give to some competitor a cheaper crude supply. This checkerboard acreage alone costs the industry and hence the consumer many millions of dollars a year. These several customs and practices are a direct consequence of the law of capture which necessitates a chain of economic waste starting when the first lease is taken and ending only when the last gallon of gasoline is marketed.

"Although the law of capture still stands as the basic legal concept of the industry in the United States several departures have resulted through legislative enactment and judicial decision. A chain of decisions starting with an Ohio case in 1900 and running through 1930 establishes the right of the state to regulate the taking of oil and gas so as to avoid waste and protect the several owners in a just distribution of the products of the pool. In commenting on these decisions, W. P. Z. German points out that the underlying principle is older than our Government. It is embodied in the ancient maxium of the common law that everyone must so use his own property as not to injure the rights of others. It happens that this principle has been but recently applied to conditions in this comparatively young and now rapidly growing industry."

Bottom Hole Samples Preferred to Those Taken at Well Head

The practice of getting samples of oil from the bottom of the well instead of at the well head seems to be growing. Can you tell me why samples obtained that way are better than those obtained at the well head? —F. S. G.

"Bottom hole" sampling, whereby samples of oil are obtained at formation pressure and temperature from the bottom of a well, is a comparatively new development in petroleum technology. The study of "bottom hole" samples follows in natural sequence the study of samples obtained under high pressures at the well heads of flowing wells. Ben E. Lindsly, senior petroleum engineer of the U. S. Bureau of Mines, says in a report on bottom hole samples of East Texas crude oil. The principal object, Mr. Lindsly says, of this phase of gas-solubility research, started actively in January, 1930, was to gain a more accurate knowledge of the physical and chemical characteristics of the oil-gas mixtures that exist in natural reservoirs. In possession of actual data regarding the condition of the oil; the quantity of gas liberated from solution upon diminution of pressure; and the relative volumetric proportions of gas to oil at various pressures throughout the flow string in a well, it should be possible to predict, with a fair degree of accuracy, what physical changes these mixtures would undergo throughout the life of a pool. Such information not only is important in designing flow strings in flowing wells, but is important also in solving problems relating to pumping efficiency and the power required for pumping.

Although certain fundamental data were obtained in the study of samples taken at the well head, "bottom hole" samples are more representative of subsurface mixtures of oil and gas because they are obtained at reservoir temperatures, and before the oil has had the opportunity of intermingling with extraneous gas; that is gas which either was not in solution originally, or which was liberated from solution at some higher pressure, and later became mixed with the original undissolved gas.

Extraneous gas, intermingling in the flow string with oil that has flowed from the sand into a well, might have the effect of either increasing or decreasing the amount of gas that is liberated from a well head sample. For example, it is quite possible for the formation oil to contain much less gas in solution than it is capable of absorbing; in other words, it might be undersaturated. Hence the contact of this oil with gas that it encounters in the flow string might cause it to absorb additional gas, and the well head sample accordingly would liberate more gas per unit volume of oil than the oil originally contained when it was in the reservoir. On the other hand, if the original reservoir oil was completely saturated with gas, the reduction of pressure in the flow string, would result in gas liberation, and a well head sample under these circumstances would contain less gas per unit volume of oil than was originally contained in an equal volume in the reservoir.

Why Was It Called That?

KEROSENE

Production of kerosene came about as the result of research by Dr. Abraham Gesner, a scientist of Nova Scotia. In 1851 Doctor Gesner experimented with Trinidad asphalt, obtaining from it an illuminating oil. Subsequently he distilled from mineral wax, bituminous shale, etc., an oil suitable for burning in lamps. He called it keroselaine, from a Greek word meaning wax. Later he shortened this to kerosene. Coal oil is another name, formerly widely used, originating in the fact that the product often was distilled from channel coal.

Opinion of Driller Is Worth More Than Guess of an Engineer

I am interested in a well which is down 2,460 feet, and tests show we are on top of the Dakota sand at 2,375 feet. A casing spear is hung in the hole and the driller says all attempts to get it out have failed. Now he wants us to allow him to continue drilling on past this impediment. In other words, he wants to try to drill down alongside the tools in the hole. Can this be done successfully and be sure of landing casing lower down? We have 1,500 feet of water in the hole, coming from a sand at 2,365 feet, and the water flows in heads over the derrick floor every day or two. We are very anxious to finish this job and at present we are shut down until a decision is arrived at as to what to do.—J. B. B.

This hole apparently is being drilled by the cable tool method although you do not say so. Neither do you state the size of the hole, the amount of casing set and the casing points, the type of formation in which the fishing job has occurred and other things that are quite essential if really helpful advice is to be given.

Without this essential information engineers consulted in your behalf can only guess, and you should be warned that an engineer's guess is by no means as valuable as the opinion of the driller.

It is possible under ordinary circumstances to drill around an obstruction of this kind and set casing and complete the well. It would be preferable first to shut off the water, but if this cannot be done it is still possible to drill around the "fish" and set casing and proceed with the drilling.

Our suggestion would be to see some competent geologist or petroleum engineer and get his advice, even if it is necessary to pay for it. With water in the hole in the quantity you indicate there are a number of things that may happen and you do not give enough information upon which to base any conclusion that would be safe to follow.

You can, however, get competent advice from technical men in your district, and it is safe to say it will pay you to seek it now rather than drill ahead and spend a lot of additional money without knowing much about the prospects of success.

Using Old Automobile Engine for Pumping Is Simple Operation

I am informed that a method has been worked out for using an automobile motor for pumping an oil well. I would like to install one on a well I have instead of an ordinary gas engine.—J. S. T.

Operators in California and elsewhere have rigged up old high-powered automobile engines to pump wells. The details of the installation depend upon the ingenuity of the mechanic.

The recipe is simple: Get an old car and remove the engine and clutch. Move the engine to the well and erect it at some suitable point to give motion to a beam pumping outfit. The walking beam may be driven by pitman attached to a bandwheel crank or any other kind of motion that will convert rotary to reciprocation movement. Any automobile mechanic should be able to rig up the outfit, which aside from the low cost of the discarded engine has no especial merit.

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

General Conditions Covering the Treatment of Boiler Waters

What are the most important substances to consider that may be present in water used in steam boilers? What are the best methods for treating boiler water?—E. S.

The compounds of first importance when considering a water for making steam, are the chlorides, sulphates and bicarbonates of calcium, magnesium and sodium; organic material together with small quantities of silica and iron and aluminum compounds are often present. The common bicarbonate present is calcium.

Hardness, scale forming and corrosion are related. Compounds are classified according to whether they form temporary or permanent hardness; those causing temporary hardness are precipitated by boiling; the permanent hardness group includes those that are not precipitated from the boiling water. Corrosion and pitting of parts of the steam boiler may be due to one or several chemical reactions, usually caused by deposits which react with the metal. The salts of calcium and magnesium, especially the chlorides, nitrates and bicarbonates, being the usual ones. Free carbon dioxide acts to produce rust and cause pitting.

The particular chemical compounds present in a boiler water are not determined by the chemist; to do so would entail the use of analytical methods of a much different character and considerably more expensive than the problem requires. Formerly it was the practice for the chemist to arrange the analytical data into compounds by a series of guesses, the result being tabulated under the term hypothetical combinations. Conjectures of this sort frequently led to confusion, for seldom would several chemists agree or guess on the same combinations. The modern practice is to confine the analytical statement to the elements, or molecular combinations, technically known as ionic form. Examples are: Iron (Fe), calcium (Ca), sulphates (SO_4), bicarbonates (HCO_3), carbonates (CO_3). These are reported, according to the standard system, in parts per million, although some operators continue to use grains per gallon. Multiply by 0.058 to convert parts per million to grains per U. S. gallon.

Since there are no two natural waters that are exactly alike, it follows that treating methods should be formulated to suit each particular water. General principles, including ordinary methods for treating are shown in the table, which is from steam, issued by the Babcock & Wilcox Co.

BOILER WATERS

Cause and Effect of Impurities and Treating Methods

Cause—	Effect	Treating method
Sediment, mud, etc.	Incrustation	Settling, filtration, blow down
Readily soluble salts	Incrustation and priming	Blowing down
Bicarbonates	Incrustation	Heating water; adding lime or lime and soda; caustic soda and barium hydrate
Lime sulphate	Incrustation	Addition of soda-barium carbonate
Magnesium chloride and sulphates	Corrosion	Soda carbonate
Acid	Corrosion	Alkali
Dissolved carbon dioxide and oxygen	Corrosion	Heating water, exclude air from water, caustic soda and lime
Grease	Corrosion	Filter, iron alum as coagulant, carbonate of soda, use of best hydrocarbon oils
Organic matter	Corrosion	Filter, coagulant settling
Excessive soda carbonate	Priming	New supply. If from treatment, change.

First Proposal for Gasoline Tax and First State Law

Can you tell me by whom the tax on gasoline was first proposed?—G. O. N.

The history of the gasoline tax is given in detail in Publication No. 30, Municipal Administration Service, by F. G. Crawford. The material following is abstracted from this publication.

It appears that the first proposal for a gasoline tax was made by President Wilson in 1915, and in 1918 it was included in the House Revenue Bill, but was dropped in the final draft of the bill. The first action to become a law by the U. S. Government was the tax bill of 1932, providing for a tax of 1 cent a gallon on gasoline; an additional half cent was added under the National Recovery Act, which, according to a recent announcement, is to be removed January 1, 1934.

The first tax to be adopted was that of Oregon. The legislature of Oregon authorized in February, 1919, the collection of a 1-cent tax. The final bill was prepared by Loyal M. Graham. A similar measure had been introduced in 1917 by Louis Bean, Eugene, Ore., but failed to pass.

Mr. Graham explains, in a letter to Mr. Crawford, that the Highway Commission had asked for a $10,000,000 bond issue. The committee worked out a plan to retire the bonds in 25 years through a license fee system, but there was no provision for maintenance of the highways.

W. B. Dennis, chairman of the roads and highways committee of the Oregon legislature, prepared a law including a tax of 1 cent a gallon on gasoline for a fund for upkeep, the collections to be made at gasoline stations. Mr. Graham altered this to make the collections from the wholesaler, of which there were four in Oregon at the time. This bill became the law; although the rate has been increased to 4 cents, the plan has not been changed.

Naphtha as Related to Motor Fuel for Buses

Will you kindly explain what is meant by bus naphtha?—J. K. S.

Some years ago, before the general use of the automobile, the word naphtha was used to indicate all of the lighter products distilling from petroleum above kerosene and the word is retained by some refiners to mean unfinished gasoline.

The American Society for Testing Materials, through Committee D-2, defines petroleum naphtha as follows: "A generic term applied to refined, partly refined or unrefined petroleum products and liquid products of natural gas, not less than 10 per cent of which distills below 347° F. and not less than 95 per cent of which distills below 467° F., when subjected to distillation in accordance with the Standard Method of Test for Distillation of Gasoline, Naphtha, Kerosene and Similar Petroleum Products of the American Society for Testing Materials." The same authority states that gasoline is "A refined petroleum naphtha which by its composition is suitable for use as a carburant in internal combustion engines." It is clear from these that a naphtha may or may not be gasoline.

Some unfinished distillates that do not conform to any of the recognized specifications for commercial gasoline are used as motor fuels. Legal restrictions commonly prohibit the sale of such distillates under the name of gasoline, so they may be marketed under the name naphtha. The trucks and buses make use of several blends, such mixtures being frequently termed bus naphthas.

In other words, any unrefined gasoline, or the product not completely refined to comply with the standard of quality required for gasoline, may properly be called bus naphtha, when suitable for fuel in the bus engine.

Quantity of Gum in Relation to Volume Tested. Max. Gum Limits

Is the quantity of gum found in a porcelain or glass dish related to the volume of gasoline evaporated? That is, if 10, 20, 50 cc. were evaporated under the same conditions, would the mg./100 cc. be the same? What do you consider a reasonable gum specification for motor gasoline?—C. P. G.

The conditions under which a gum test is made have much to do with the quantity that may finally be weighed, so it is essential for accuracy that all details of the test method shall be observed. The U. S. Bureau of Standards has for some years been investigating methods for determining gum in gasoline, and their findings are generally accepted by petroleum technologists as reliable.

The Bureau of Standards considers it important that the gum be dried to constant weight; carelessness in this detail is probably responsible for many failures to obtain concordant results. The bureau includes in their method the removal of the gasoline vapors by means of an air jet. If the flow of air is not maintained at a constant rate, variations in time of evaporation will result. It was found that the weight of gum decreased rapidly with increase of air flow up to a certain point, but a further increase of air seemed to have no appreciable effect.

When the volume of gasoline is reduced there will be a tendency toward a decreased gum content per unit volume. However, the relative gum content of any two gasolines will remain the same regardless of the particular volume evaporated in the test.

The bureau has concluded from a series of tests: When the flow of air is regulated to assist evaporation, the relative quantity of gum from a series of gasolines will be found to be independent of the volume evaporated. It is stated that an air-jet method may be selected in which any convenient volume can be evaporated at any convenient bath temperature, and the same relative gum content for a number of gasolines will be obtained as at any other chosen temperature and volume evaporated.

The gum content of motor gasoline is now considered of major importance, for excessive quantities may seriously hinder motor operation. Control of gum is a problem introduced into the refining of petroleum with the cracking process, gum is seldom found in straightrun gasolines, and large quantities have to be removed from the cracked distillate.

The standard specifications for motor gasoline do not mention gum, so whatever limits are in use in the trade they have been developed by purchasers and the marketing agencies. Some contracts are reported to have required a maximum of 10 mg., others permit 20 mg., while some of the third grade gasolines are sold under a specification of 30 mg. max.

The U. S. Bureau of Mines Motor-Gasoline Survey, Part 3, R.I. 3,152, November, 1931, gives the following summaries of the gasolines of the United States as the residues by the copper dish test:

From the total number of gasolines tested, 20.2 per cent averaged 5 mg. or less per 100 cc. of sample; the residue was less than 20 mg. in 90.7 per cent of the samples, and those containing 25 mg. or more were equivalent to only 9.4 per cent.

NATURAL GAS DEVELOPMENTS

Ohio Companies Show Jurisdiction in Appeal

WASHINGTON, D. C., Jan. 2.—The Columbia Gas & Fuel Co., the U. S. Supreme Court decided, showed probable jurisdiction in its appeal from the lower court's decision favoring the Ohio Utilities Commission in a rate dispute for services extended to the city of Columbus, Ohio.

At the same time the court held the Dayton Power & Light Co. had shown probable jurisdiction in its appeal from the lower court decision upholding the order of the Public Utilities Commission of Ohio in reducing the gateway price of natural gas from 45 cents per 1,000 feet to 39 cents, and directing a refund to customers in eight cities of Ohio of more than 300,000. The Dayton company buys its gas from the Ohio Fuel Gas Co. which in turn buys from the United Fuel Gas Co. of West Virginia.

In the Columbus case the Public Utility Commission of Ohio fixed rates to be charged by the Columbus Gas & Fuel Co. in the city of Columbus, Ohio, for natural gas at 55 cents per 1,000 feet. The commission also fixed a rate of 39.022 cents as reasonable price the Columbus company should pay the Ohio Fuel & Gas Co., an affiliate, at the gateway of the city and 22.04 cents as the price to be paid the United Fuel Gas Co., also an affiliate, for gas at the Ohio-West Virginia state line gateway.

The Columbus company sued on the grounds that the commission's order impaired the obligations of a contract between the three companies and charged also that the rates fixed were unlawful and unreasonable.

The Dayton company had filed a new schedule of rates for eight cities it serves based, among other things, on the 45-cent rate it paid for the natural gas at wholesale. These rates went into effect pending the determination of their reasonableness and upon the order of the commission re-establishing the old rates upon which the company was required to refund the $300,000 to customers, which represented the difference between the new and old rates.

Lubbock Petitions PWA to Aid Municipal Plant

FORT WORTH, Tex., Jan. 2.—Municipal officials and representatives of utilities in two West Texas cities have filed opposing briefs before the Texas public works advisory board in connection with loans and grants sought for the purpose of establishing a municipal gas system in one place and a municipal electric power plant in the other.

The larger of the projects, application for which has been filed with the PWA, involves a request for a loan and grant amounting to $1,700,000 with which to install a gas system in Lubbock and to build a pipe line from Lubbock to Jal, N. Mex., gas field, the anticipated new source of supply. The application was filed by Lubbock municipal officials in the name of the Natural Gas Supply Co.

COTTON COUNTY GAS

The Oklahoma Corporation Commission has set for hearing January 5 a petition of Westheimer & Daube of Ardmore for a citation against the Southwestern Light & Power Co. on charges of neglecting to take gas ratably from wells in a Cotton County gas field.

Status of Field Operations in New York-Pennsylvania Natural Gas Region

OIL CITY, Pa., Jan. 2.—Following is the status of field operations in the New York and Pennsylvania natural gas fields near the close of the year:

PENNSYLVANIA

Operator, farm, county, and township—	Operations Dec. 21, 1933:
Mutual Nat. Gas' Presbyterian Church, Tioga County, Farmington Twp.	Shut down 1,850 ft.
Penn-United's G. Stevens, Tioga County, Farmington Twp.	Drilling 2,550 ft.
Rodgers et al's Scutt, Potter County, Hebron Twp.	Shut down 3,650 ft.
Updegraft et al's Coyle, Potter County, Hebron Twp.	Shut down.
Hungiville et al's Sturdevant, Potter County, Hebron Twp.	Drilling 3,855 ft.
Sylvania Corp.'s J. Higley, Potter County, Hebron Twp.	Drilling 4,339 ft.
Reed et al's No. 2 Champlin, Potter County, Hebron Twp.	No report.
Penn-United's No. 1-A Russell, Potter County, Hebron Twp.	Drilling 1,750 ft.
Hanley & Bird's No. 2 Gooch, Potter County, Hebron Twp.	Drilling 1,015 ft.
Duff et al's Potter Co. Com., Potter County, Allegany Twp.	Drilling 2,116 ft.
Allegany's Gray Chemical Co., Potter County, Clara Twp.	Comp.; dry and abd.
Bayliss' Franke, Potter County, Eulalia Twp.	Shut down 5,881 ft.
E. Penn Dev. Co.'s Empor. Lbr. Co., Potter County, E. Fork Twp.	Drilling 5,417 ft.
Barker et al's No. 1 Russell, Potter County, Genesee Twp.	Shut down.
Tioga Nat. Gas' No. 1 Empor. Bk., Cameron County, Shippen Twp.	Shut down 4,440 ft.
Pendiana Corp.'s No. 2 Empor. Bk., Cameron County, Shippen Twp.	Shut down 4,380 ft.
Atlantic Seaboard's Haywood est., McKean County, Hamlin Twp.	No report.

NEW YORK

Wright-Reed's Neilson, Steuben County, Thurston Twp.	Shut down 1,015 ft.
Eastern States' Eichorn, Steuben County, Dansville Twp.	No report.
Wittmer Co.'s Kellogg, Steuben County, Greenwood Twp.	Drilling 175 ft.
Kerr-Kaufman's Vincent-Smith, Allegany County, Allen Twp.	Shut down.
Kerr-Kaufman's Bk. of Angelica, Allegany County, Allen Twp.	Shut down 2,825 ft.
Mid East Gas Co.'s Rubinstein, Ontario County, Bristol Twp.	Prod. 633,000 ft. gas.
Geneva Gas Properties' Mrs. C. Peck, Ontario County, Phelps Twp.	Drilling 1,170 ft.
Geneva Gas Properties' No. 2 Patrick, Ontario County, Phelps Twp.	Gas, 25,000,000 ft.; (fire).
Gevena Gas Properties' No. 2 Cleveland, Ontario County, Phelps Twp.	Shut down 1,044 ft.
Reed et al's Quinlin O. & G., Cattar's County, Olean Twp.	Shut down 4,295 ft.
Reed et al's Ryder-Scott, Cattar's County, Allegany Twp.	Shut down 3,200 ft.
Griffith et al's Riche, Cattar's County, N. Albion Twp.	Shut down.
Property Shares' Vanderbilt, Wayne County, Galen Twp.	Shut down.
Hadley & Co.'s Noble, Wayne County, Galen Twp.	Shut down 1,300 ft.
Hadley & Co.'s No. 2 Welsh, Wayne County, Galen Twp.	Drilling 825 ft.
T. Boyce et al's No. 3 Harper, Wayne County, Galen Twp.	Drilling 1,550 ft.
T. Boyce et al's C. D. Ely est., Wayne County, Galen Twp.	Fishing 540 ft.
Syracuse Alli.'s Evans, Seneca County, Tyre Twp.	Shut down 1,000 ft.
Geneva Gas Properties' C. Parrish, Seneca County, Waterloo Twp.	Prod. 3,500,000 ft. gas.
Broome-Tioga Corp.'s No. 2 Toewe, Seneca County, Waterloo Twp.	Dry and abd.
Geneva Gas Properties' No. 2 D. W. Parrish, Seneca County, Waterloo Twp.	Building rig.
Adams et al's Weckerlin, Seneca County, Junius Twp.	Prod. 126,000 ft. gas.
Dearth et al's Terbush est., Seneca County, Junius Twp.	Prod. 2,034,000 ft. gas.
Geneva Gas Properties' Saxton, Seneca County, Waterloo Twp.	Spudding.
Springstein et al's Miller, Monroe County, Henrietta Twp.	Drilling 1,950 ft.
Hadley & Co.'s Slayton, Cayuga County, Conquest Twp.	Shut down.
Broome-Tioga's Kemp, Tioga County, Owego Twp.	Shut down.

Federal Court Enjoins Illinois Gas Rate Cut

CHICAGO, Jan. 2.—A three-judge Federal court has handed down an oral decision granting a temporary injunction restraining the Illinois Commerce Commission from enforcing terms of an order entered last June requiring Chicago District Pipe Line Co. to make reductions in rates charged Peoples Gas Light & Coke Co. and two other distributing companies in this area for natural gas. Henry P. Chandler was appointed special master to inquire further into the case and report to the court.

Irvin Rooks, general counsel for the commission, said the decision in some respects was in line with the commission's contentions. He said: "The court ruled that the mere fact that the Chicago District Pipe Line Co. had bound itself by contract to pay a certain price (considered excessive by the commission) to the Natural Gas Pipe Line Co. of America for natural gas, was not binding upon the commission or upon the court, but that the court in the trial to follow would predicate its final decision upon what a fair and reasonable charge for natural gas at Joliet should be regardless of the terms of the contract. Furthermore, the court coupled with its order for temporary injunction a further provision that during the pendency of the case the gross amount representing the difference in rates between that prescribed as fair by the Illinois Commerce Commission and the higher rate demanded by the Chicago District Pipe Line Co. should be impounded and held for the benefit indirectly of ratepayers."

PROTEST PAYING FOR SURVEYS

CHICAGO, Jan. 2.—Public utilities of Illinois have protested the legality of an addition to the State Commerce Commission act. Interest centered on testing that section of the act which requires the utilities to pay the cost of appraisals and surveys by the commission for rate making purposes.

Although the amounts involved are relatively small it is felt in utility circles that at times they may become a heavy burden of expense.

Public Service Co. of Northern Illinois has the largest bill for commission investigation, totaling $18,154.

Gas Rates in Houston Not Affected by Order

HOUSTON, Tex., Jan. 2.—The United Gas System's acceptance of the lowered city gate rates on domestic gas recently promulgated by the Texas Railroad Commission will not reduce the price of natural gas service to Houston domestic consumers.

"The 34-cent city gate rate does not mean anything to the Houston Gas & Fuel Co.," said K. L. Simmons, official of the company, "for the reason that the Houston Gas & Fuel Co. always has paid less than that rate for the gas delivered to it at the city gate, as anyone can ascertain by examining the company's franchise from the city of Houston." The company's gate rate is 33 cents.

The United Gas Public Service Co. and subsidiaries have received the commission's order, it was stated by N. C. McGowen, president of the company. In a formal statement Mr. McGowen said:

"The Railroad Commission of Texas has issued a temporary order fixing city gate rates for our distribution systems in Texas. We are in sympathy with the railroad commission's desire to avoid delay and save expense in compliance with pending rate cases and while we fear that the city gate rate fixed by the commission will prove to be inadequate, nevertheless it is our intention to cooperate with this effort of the commission for the time being, and so long as we can, giving due consideration to the necessity of rendering to our customers the very best of service and at the same time preserving the financial stability of our company.

"We have spent many millions of dollars in the State of Texas in order to provide adequate and permanent gas service at reasonable rates, and ask only rates sufficient to protect this service to our customers and preserve the financial stability of our company."

Rate Increase Denied by Texarkana Council

SHREVEPORT, La., Jan. 2.—The Southern Cities Distributing Co.'s application for permission to increase rates for gas sold to consumers was denied by the Texarkana, Ark., city council after a lengthy hearing. Attorneys for the company announced an appeal would be made to the courts to compel the city to grant an increase in the gas rates.

Early in 1930, after a controversy extending over several weeks, the mayor and city council made a compromise agreement with the Southern Cities Distributing Co. fixing rates to consumers, but a few persons got up a referendum election on the matter and this agreement was repudiated by the voters.

The matter was then taken through all the courts, the United States Supreme Court finally deciding against the gas company and placing the rate back where it was prior to the 1930 agreement.

EDMONTON RATE REVISION

EDMONTON, Alberta, Jan. 2.—The Edmonton city council has decided to make application to the Alberta Public Utility Commission for a general revision of the natural gas rates. The city is supplied by Northwestern Utilities, Ltd., which some weeks ago announced an optional rate for the winter months. The city will secure the services of a gas engineer as expert advisor.

PERSONAL PARAGRAPHS

J. L. SHAW, a former oil operator of Denver, Colo., has moved to Hutchinson, Kans., and will operate in western Kansas.

* * *

MARTIN G. MILLER, senior school of petroleum engineering, Oklahoma University, Norman, Okla., was in Tulsa during the holidays.

* * *

C. E. EDGERTON has been made divisional geologist of the H. F. Wilcox Oil & Gas Company with headquarters at San Antonio, Tex.

* * *

EUGENE A. STEPHENSON, professor, department of mining, School of Mines and Metallurgy, Rolla, Mo., visited in Houston, Tex., during the holidays.

* * *

M. H. LOWRANCE, Fort Worth, Tex., and R. O. LOWRANCE, Houston, Tex., both land men for the Sinclair Prairie Oil Company, visited with their parents in Thayer, Kans., during the holidays.

* * *

CAREY BUTCHER, geologist for the Cardinal Oil Company, San Angelo, Tex., has been elected president of the West Texas Geological Society for the current year.

* * *

WILLIAM G. HELTZEL, general superintendent for the Stanolind Pipe Line Company, Tulsa, is making a trip over the company's properties with O. H. (RED) POWELL, division superintendent for the company at Fort Worth, Tex.

* * *

WILLIS STORM and G. C. POTTER, consulting geologists of San Antonio, Tex., spent the holidays in Tulsa.

* * *

ALFRED A. FOOTE, Eastman, Gardiner & Company, Laurel, Miss., spent the holidays in Houston and San Antonio, Tex.

* * *

JOSEPH LAWTON, of the Shumway interests of Southwest Texas, was a holiday visitor with relatives at Pawhuska, Okla.

* * *

MARCUS A. HANNAH, chief paleontologist of the Gulf Production Company, Houston, Tex., has returned from a trip to Chicago.

* * *

W. D. HAMM, assistant chief geologist of the Shell Petroleum Corporation in Houston, Tex., has returned from a vacation spent in Ardmore, Okla.

* * *

W. S. FARISH, chairman of the board of the Standard Oil Company of New Jersey, New York City, spent the holidays in Houston, Tex., his former home.

* * *

E. F. HATFIELD, production superintendent of the Panhandle area of Northwest Texas for the Gulf Production Company, has been transferred to the Crane-Upton area of West Texas.

* * *

C. H. FIDDLER, formerly connected with the Tide Water Oil Company at Conroe and more recently at Longview, Tex., has been stationed at Kilgore for the company in a scouting capacity.

* * *

M. E. (JACK) NASH, for seven years petroleum engineer for the minerals division of the Louisiana Conservation Commission, has resigned, effective January 1. DON GOODWILL, of Minden, La., will succeed him.

FRED THILENIUS, formerly with Prairie Pipe Line Company, Tulsa, has been made superintendent of the Minneapolis, Minn., terminal of the Great Lakes Pipe Line Company and is in Tulsa moving his family to the northern city, where he will make his home.

* * *

JACK H. MOYAR, production superintendent for the Stanolind Oil & Gas Company in the Panhandle district, Borger, Tex., is being transferred to Fort Worth as division superintendent to fill the place left vacant by the promotion of CLYDE SANDERS, who recently moved to Tulsa to become assistant production superintendent.

* * *

J. A. CRAWFORD, president of the Republic Supply Company of California, who recently returned from Washington where he was a member of the code presentation committee, gave a complete report to members of the American Petroleum Equipment Suppliers Association at a general meeting held in Los Angeles last week.

* * *

J. W. CLARK McKEE, who has been manager of the Mount Pleasant, Mich., district for the Oil Well Supply Company, has resigned to take a position with the Roosevelt Oil Company, of Mount Pleasant, as assistant to C. L. MAGUIRE, president of the company and its affiliated companies, Simrall Pipe Line and Theodore Oil Company. Mr. McKee had been affiliated with the supply company for eight years.

A. C. STEWART of the Union Oil Company of California has been appointed division sales manager of the company's southern division.

* * *

WALLACE GORDON, geologist for the Superior Oil Company of California, Tulsa, was a visitor at the company's offices in Dallas, Tex., during the past week.

* * *

JOHN KLEP, Belgian student in department of petroleum engineering and geology, University of Oklahoma, Norman, Okla., has been in Tulsa over the holidays.

* * *

JOHN HORNBECK, formerly scouting in the West Texas district, has been assigned to the scouting department of the Skelly Oil Company in Southwest Texas with headquarters in San Antonio.

* * *

G. A. ZANZOT of the Universal Consolidated Oil Company explained some of the intricacies of marine accounting to members of the Los Angeles Petroleum Accountants Society at the last monthly meeting.

* * *

CLIFTON M. (CAP) KEELER, field representative for the Proration Department of the Corporation Commission of Oklahoma in the Oklahoma City Field for some time past, has accepted a somewhat similar position with the Federal Agency operating in Texas and has moved to Texas to assume his new duties.

* * *

J. K. LEWIS, independent operator, Houston, Tex., spent several days in Southwest Texas on a hunting trip.

* * *

CHESTER CONKLIN, geologist, the Shell Petroleum Corporation, in Houston, Tex., was a recent visitor in Tulsa.

* * *

J. C. MONROE, district clerk at Daisetta, Tex., for the Texas Company, has been in Austin, Tex., for the last few weeks.

* * *

C. K. KRUGER, assistant to the chief scout of the Shell Petroleum Corporation, in Houston, Tex., was a recent visitor in Dallas, Tex.

* * *

R. C. HOLMES, formerly chairman of the board of the Texas Company, and wife, have been visiting in Houston, Tex., over the holidays.

* * *

THOMAS A. DINES, president of the Salt Creek Producers Association, with headquarters in Denver, Colo., is in Washington, D. C., on business.

* * *

JESSE L. BULLARD, oil scout of the Shell Petroleum Corporation, in the San Antonio, Tex., district, is spending his vacation in Mexico City, Mexico.

* * *

W. C. COOLIDGE, Gulf Coast division manager, the Atlantic Oil Producing Company, Houston, Tex., spent several days in Shreveport, La., on business.

* * *

C. E. SHOENFELT, geologist, accompanied by MRS. SCHOENFELT, have returned to Denver, Colo., after spending the holidays in Oklahoma and Memphis, Tenn.

* * *

J. R. REEVE, deputy supervisor of the U. S. Geological Survey, of the Casper, Wyo., office, made an official visit to the Denver, Colo., office of the survey just before Christmas.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

December 27, 1908

N. L. Josey, James G. Hamill and Dr. S. G. Kennedy discover oil on their several-thousand-acre lease block in the Osage Nation, Oklahoma, at a depth of 1,219 feet.

T. N. Barnsdall, gas magnate, is visiting in Tulsa. He says he can supply St. Louis with 1,000,000,000 feet of natural gas per day if that much is needed, and defies Governor Haskell to stop him piping the gas out of the state if St. Louis wants it.

John A. Bell of Pittsburgh, George C. Priestly and Homer K. Preston take over the properties of seven oil companies in the Cherokee Nation in Oklahoma, including 200 oil wells and 14,000 acres of leases.

The Prairie Oil & Gas Co. will not extend its pipe line system to New Orleans, as planned. Secretary Garfield of the Interior Department has refused to modify the department's pipe line regulations on Indian lands. Now the Standard Oil Co. may lay a line from Caddo, La., to New Orleans.

20 Years Ago

January 8, 1914

The Mid-Continent fields opened the year with a total production of 252,000 bbls. per day, including Kansas and Oklahoma 193,000 bbls.: Electra, Tex., 27,000 bbls., and Caddo, La., 32,000 bbls. The Gulf Coast produced 19,000 bbls.

Twenty-five thousand wells were completed east of California in 1913, 47 per cent of them east of the Mississippi River.

Eight hundred friends of Lewis Emery, Jr., and wife, Bradford, Pa., called on them on December 29, the fiftieth anniversary of their marriage.

J. L. Sheakley of Pittsburgh has accepted a position in the sales department of the Frick-Reid Supply Co. He was formerly with the Pitsburgh Contracting Co.

10 Years Ago

January 3, 1924

The Mid-Continent Field at the opening of the year was producing 886,500 bbls. per day, and the United States 1,947,500 bbls.

Sinclair Consolidated Oil Corp. gets oil concessions on 90,000,000 acres in four Persian provinces.

It is reported that J. P. Morgan & Co. has bought an enormous block of stock of the Marland Oil Co. and that control will soon pass to the big banking house on January 3.

Senator LaFollette wants the Federal Government to supervise oil and gas prices. He cries out for cheaper gasoline. The retail price in Washington is 18 cents per gallon, with no tax.

Thirty-six gravity Mid-Continent oil is selling for $1 per barrel.

The Gypsy Oil Co. withdraws from Montana, and its agent there, E. P. Rushmore, has returned to the Tulsa headquarters.

L. E. HOLT, district clerk for the Humble Oil & Refining Company at Humble, Tex., spent the holidays in New Orleans, La.

* * *

J. W. HUFENDICK, petroleum engineer for the Texas Company, in the Humble Field, and wife, have returned from a vacation trip at Harlingen, Tex.

* * *

C. J. DEXTER, of Artesia, N. Mex., chairman of the state production committee, spoke on the oil industry in New Mexico at a recent luncheon of the Rotary Club at Artesia.

* * *

H. W. ROCKE, of Price, Waterhouse & Company's staff, has been appointed assistant accountant to the Vacuum Oil Company. The chief accountant is J. D. TREASURE.

* * *

DALE S. MILES, Mid-Continent representative of the Ross Heater & Manufacturing Company, Inc., division of American Radiator Company, is spending a few weeks in Buffalo, N. Y., at the company's main office and plant.

* * *

H. LESLIE PARKER, discoverer of the Big Muddy oil field, is back in his office at Denver, Colo., after being injured in an automobile accident near Colorado Springs, Colo., and aside from one arm in a cast and the other bandaged, shows few signs of his injuries.

* * *

HARRY CROFT has retired on pension after 39 years' service with the Vacuum Oil Company. Mr. Croft joined the staff of the Vacuum Oil Company in 1894. By successive steps he became manager of the company's electrical department, a position which he held until it was absorbed in the general department.

* * *

A. W. BREELAND, safety supervisor of Lone Star Gas System, has been appointed vice chairman of the petroleum section of the National Safety Council.

* * *

T. M. McKENZIE, for many years chief chemist of the Eagle Oil & Shipping Company, Ltd., is relinquishing his position with a view to taking up fruit farming in the Argentine.

* * *

HAL CURRAN, formerly attorney in the land department of the Producers & Refiners Corporation, is in a hospital at Benita, Calif., where he has been for some time seriously ill from heart trouble.

* * *

J. W. GLASS, superintendent of the White Eagle refinery at Casper, Wyo., has been at Memorial Hospital, suffering from severe injuries sustained in an automobile accident near Evansville, Wyo.

* * *

W. M. COUZENS, until recently supervisor of the Pacific Coast branch of the American Gas Association testing laboratory, and for the past eight months one of the department heads at the Cleveland laboratory, has resigned from the laboratory, and has joined the staff of Grayson Appliances, Ltd., Lynwood, Calif., to become the eastern manager of that firm.

* * *

A. W. WALKER, JR., former president of the Texas Petroleum Council, may return to Texas in February, and the council has postponed nomination of a president to succeed him. Professor Walker, who is on leave of absence from the University of Texas, while serving as counsel to the Petroleum Administrative Board in Washington, will indicate in February whether he will continue there, or return to Austin. The Texas Petroleum Council has elected the following new directors, to fill vacancies: GEORGE STRAKE, Houston; JAMES COLLINS, Corsicana; BERT WEEKLY, Fort Worth; C. R. COLE, Laredo; HARRY MOSS, Dallas; HARRY HANSZEN, Houston; JOE PIERSON, Corsicana; GEORGE McINTYRE, Fort Worth; JOHN SHEERIN, Amarillo; and FRED HOGAN, Houston.

Father of Oklahoma Geology

Among outstanding accomplishments of Dr. Charles N. Gould, founder of the school of geology at the University of Oklahoma, former director of the Oklahoma Geological Survey and characterized as "Father of Oklahoma Geology," are the discovery of the following oil fields: Amarillo and South Bend, in Texas; Poteau, Carter, Knox and Muskogee, in Oklahoma, and Augusta, in Kansas.

DR. CHARLES N. GOULD

Doctor Gould was born July 22, 1868, in Lower Salem, Ohio. He received his bachelor of science degree in 1889 from the Southwest Kansas College, Winfield, Kans. From the University of Nebraska he received his master's degree in 1900, doctor of philosophy in 1906 and doctor of science in 1928. He was active in establishing the Oklahoma Geological Survey in 1908 at the University of Oklahoma, Norman. The survey was suspended by the Oklahoma legislature in 1931, since which time Doctor Gould has been a consulting geologist in Norman.

Doctor Gould holds membership in the American Institute of Mining and Metallurgical Engineers, Geological Society of America, Paleontological Society of America, American Association for the Advancement of Science, International Geological Congress, Institute of Petroleum Technologists, American Association of Petroleum Geologists, Royal Society of Arts, and American Mining Congress. He was twice president of the Oklahoma Academy of Science.

Two hundred and fifty articles dealing chiefly with the geology and mineral resources of Oklahoma have been written by Doctor Gould. Publication has been chiefly in government and state reports and in various scientific and economic journals.

GEORGE OLDS, JR., an executive assistant to PRESIDENT D. J. MORAN of the Continental Oil Company, has been visiting the Continental's general offices at Ponca City, Okla. E. F. BATTSON, another Conoco official, accompanied him to Oklahoma.

* * *

HOWELL B. WISEMAN, formerly district superintendent of the Kentucky district of the Mid-Continent Petroleum Corporation, is now manager of the tire and accessory sales unit of the Mid-Continent eastern division, with headquarters at Louisville, Ky.

* * *

K. B. ANDERSON, manager, Coast Industrial Gas Company, has moved his headquarters from Pittsburg, Calif., to San Francisco where he will act as assistant to the president of the Natural Gas Corporation of Oregon, and the Natural Gas Corporation of Washington.

* * *

J. L. NICHOLS, district superintendent of the Stanolind Oil & Gas Company, has been transferred from Wink, Tex., to Wichita, Kans.; F. L. GEHER has been transferred and promoted to production superintendent at Pampa, Tex. He was formerly located at Midwest, Wyo. L. E. SLOAN, production superintendent, has been transferred from McCamey to Winkler County, Texas. L. K. WORTH, district superintendent at Wichita, Kans., has been promoted to assistant to the general superintendent and moved to Tulsa.

* * *

W. C. WENZEL, assistant treasurer and general credit manager of Richfield Oil Corporation, and its subsidiaries for the past five years, has resigned to join the executive staff of Dun & Bradstreet, Inc. He is taking up his new duties for the primary purpose of specializing the agency's service to the petroleum industry. In addition to serving for the past two years as chairman of the Petroleum Group of Credit Managers, New York City, he has been vice chairman of the General Committee on Credit Practices, reporting to the Planning and Co-ordination Committee under the oil code.

J. C. THOMAS, of Parkerton, Wyo., division superintendent for Wyoming for the Continental Oil Company, was in Casper, Wyo., last week.

* * *

WALTER F. BRITTAN, assistant to B. H. MARKHAM, chairman of the Petroleum Industries Committee of the American Petroleum Institute, with headquarters in New York City, was a visitor in Great Falls, Mont., during the holidays.

* * *

C. L. WEAVER, president of the Ohio Fuel Gas Company, has been elected to succeed PHILIP G. GOSSLER as president of the Columbia Engineering Corporation, a subsidiary of the Columbia Gas & Electric Company.

* * *

W. F. McMURRAY, formerly Marland executive, has taken charge of the drilling at Marysville Buttes, Calif., as superintendent of the Buttes Oilfields, Inc. Mr. McMurray was in charge for Marland when the first producing well was completed at Seal Beach.

* * *

DR. H. J. ROSE, a senior fellow of Mellon Institute of Industrial Research, Pittsburgh, Pa., has been elected chairman of the Gas and Fuel Division of the American Chemical Society for the year 1933-34. Doctor Rose has been a member of the Mellon Institute research staff since 1918.

* * *

T. S. HOGAN, of Washington, D. C., chairman of the new labor dispute board of the NRA, spent the holidays in Denver, Colo., in connection with the organization of his new office, and went from the Colorado capitol to Salt Lake City, Utah. Senator Hogan formerly was in the oil business in the Rocky Mountain states.

* * *

J. E. ROUSE, formerly western manager for the Standard Oil Company (Indiana) with Casper, Wyo., headquarters, has returned to Chicago, after spending the holidays in Casper.

* * *

W. J. WRIGHT, petroleum engineer for the Humble Oil & Refining Company, Midland, Tex., is on his way to Sumatra where he will be in the service of the Standard Oil Company (New Jersey).

* * *

JOHN McFADYEN, vice president and manager of the western division, and DR. W. B. EMERY, geologist for the Ohio Oil Company, have returned to Casper, Wyo., after an inspection trip of company holdings in New Mexico.

* * *

USHER CARSON, an independent oil operator of Laredo, Southwest Texas, with MRS. CARSON, were guests in Tulsa during the holidays, en route home from a visit with relatives at Fort Smith, Ark., and Muskogee, Okla. A Tulsa resident for many years, Mr. Carson left in 1921, going to Miami, and then to Laredo. He reports many former Oklahomans in the Laredo district. Among them former STATE SENATOR O. W. KILLIAM, and BRIG. GEN. ALVA J. NILES.

* * *

B. T. THOMPSON, general sales agent of Standard Oil Company (Indiana), retired December 30 from an active and notable business career, with a record of 49 years and 3 months of service. Mr. Thompson began work on October 2, 1884, as a messenger boy in Kansas City for the Consolidated Tank Line Company, one of the organizations through which Standard Oil then marketed. He was transferred to Chicago in 1896 as an assistant in Standard of Indiana's lubricating department. In 37 succeeding years he served in various capacities in that department, including those of manager and general manager. Recently he has handled the company's accounts with large corporations, some amounting to more than $1,000,000 a year. In retiring Mr. Thompson joins 577 veterans of Standard who are now enjoying the benefits of the company's annuities plan.

Summary of Operations in All Fields for November, 1933

SUMMARY OF COMPLETED WORK

	Comp.	Prod.	Dry	Gas
Eastern	166	749	15	14
Central Ohio	64	168	15	41
Lima	18	291	4	6
Indiana	20	195	11	3
Michigan	52	43,491	12	1
Kentucky	31	633	16	4
Kansas	50	17,368	5	2
Oklahoma	133	46,659	32	11
North Central Texas	127	8,401	47	1
East Texas	329	21,041	9	1
West Texas	36	10,981	5	0
Texas Panhandle	17	4,013	2	1
Southwest Texas	82	16,879	32	7
Texas Gulf	121	92,396	23	2
Louisiana Gulf	17	10,925	7	0
North Louisiana	39	2,744	20	5
Arkansas	1	.....	1	0
Mississippi	3	.....	3	0
East Texas gas area	3	.....	3	0
New Mexico	3	1,573	0	0
Wyoming	6	558	1	2
Montana	12	270	4	4
Colorado	5	1,101	1	2
Total November	1,335	280,440	268	107
Total October	1,342	247,707	216	92
Difference	7	32,733	52	15

SUMMARY OF WORK UNDER WAY

	Rigs	Drlg.	Ttl
Eastern	50	198	248
Central Ohio	19	103	122
Lima	3	22	25
Indiana	3	34	37
Michigan	113	114	227
Kentucky	2	53	55
Illinois	2	11	13
Kansas	16	128	144
Oklahoma	99	372	471
East Texas	64	289	353
West Texas	30	93	123
Texas Panhandle	10	51	61
North Central Texas	49	144	193
Southwest Texas	31	98	129
Texas Gulf	44	196	240
Louisiana Gulf	27	63	90
North Louisiana	56	106	162
Arkansas	6	39	45
Mississippi	5	17	22
Alabama	0	3	3
East Texas gas area	2	16	18
Montana	8	46	54
Utah	1	17	18
Colorado	4	46	50
New Mexico	2	55	57
Wyoming	7	60	67
Total November	653	2,374	3,027
Difference	55	39	16
Total October	718	2,335	3,043

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

Oklahoma Fields

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Logan	4	11,608	0	0
Oklahoma	13	16,261	1	0
Pottawatomie	9	6,137	2	0
Hughes	1	0	0	1
Seminole	13	3,404	2	0
Osage	13	2,225	4	0
McIntosh	1	0	0	1
Okmulgee	8	255	2	2
Noble	4	2,033	1	0
Pawnee	1	0	1	0
Creek	23	1,772	2	0
Carter	6	1,819	3	0
Jefferson	5	115	1	0
Marshall	2	22	9	0
Stephens	3	8	1	1
Wagoner	14	330	7	2
Tulsa	4	0	4	0
Pontotoc	4	155	0	1
Beckham	1	0	0	1
Pittsburg	1	0	0	1
Muskogee	1	15	1	0
Okfuskee	2	500	0	1
Total November	133	46,659	32	11
Total October	69	23,506	12	5
Difference	64	23,153	20	6

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Alfalfa	0	1	1
Atoka	5	4	9
Beckham	0	4	4
Blaine	0	1	1
Caddo	0	1	1
Cleveland	9	1	1
Creek	9	54	63
Carter	4	10	14
Coal	1	1	2
Comanche	0	3	3
Choctaw	0	1	1
Ellis	0	1	1
Grant	0	1	1
Garfield	1	1	2
Garvin	0	1	1
Grady	0	4	4
Greer	0	2	2
Hughes	0	8	8
Jefferson	0	9	9
Jackson	0	1	1
Kay	1	3	4
Kingfisher	1	0	1
Kiowa	0	3	3
Logan	1	9	10
Lincoln	2	7	9
Marshall	2	5	7
Muskogee	1	4	5
Noble	2	7	9
Oklahoma	24	29	53
Osage	5	33	38
Okmulgee	5	26	31
Okfuskee	0	8	8
Pawnee	0	2	2
Payne	0	4	4
Pontotoc	6	19	25
Pittsburg	0	9	9
Pottawatomie	19	24	43
Pushmataha	0	1	1
Seminole	3	28	31
Stephens	1	20	21
Tillman	1	0	1
Tulsa	2	3	5
Wagoner	3	15	18
Washita	0	4	4
Total November	99	372	471
Total October	96	296	392
Difference	3	76	79

WELLS COMPLETED

LOGAN COUNTY

33-17-4w Walker, Carter & Gypsy 1 ...2900
28-17-4w McConnell, Continental Oil 1..6708
27-17-4w Good, Carter & Gypsy 1 2500
28-27-4w Phillips, Sinclair Prairie 1 ... 500

Wells completed 4
Production 11,608

OKLAHOMA COUNTY

26-11-3w South Glendale, I.T.I.O. 2 (2½ hrs. 1625
26-11-3w Wickline, I.T.I.O. 2 (2 hrs.) .1160
27-11-3w Davis, Beverly Hills 1 (4½ hrs.) 630
15-11-3w Shepard, Pierce et al 1 (8 hrs.) 1743
15-11-3w Anderson, Murray-Stephens (4 hrs.) 2725
22-11-3w Meaders, Gulf of Okla. (4 hrs.) 2942
27-11-3w Little, I.T.I.O. 5 (4 hrs.).....1626
23-12-3w Highley, Frank Russell, Inc. 1 (24 hrs.) 350
26-11-3w Wickline, I.T.I.O. 3 (4 hrs.)..2141
22-11-3w Thomas, Wofford Drlg. 1 (4 hrs.) 624
27-11-3w Little, I.T.I.O. 6 (4 hrs.) 527
32-14-3w Ketcham, W. E. Huston 1 .. dry
32-14-3w Price, H. E. Rapp 1 168

Wells completed 13
Production 16,261
Dry 1

POTTAWATOMIE COUNTY

34-8-4 Brandenburg, Marydon 1 ..... dry
33-7-4 Ward, Turman Oil 1 1200
31-7-5 Vieux, Mid-Continent 2 600
2-6-4 Lucas Jones et al 1 1040
25-6-4 Tenwas, Gypsy Oil et al 2 1869
6-6-5 Smith, Amerada Pet. 1 1200
25-6-4 Gray, Bradfield & Dearborn 1 .. dry
2-6-4 Mitchell, Amerada 2 193
33-7-4 Brown, Hall & Briscoe 2 35

Wells completed 9
Production 6137
Dry 2

HUGHES COUNTY

27-9-10 Candard, T. J. Lynch 1 ..... gas

Gas production 3,500,000

SEMINOLE COUNTY

35-11-6 Riddle, Carter Oil et al 1 123
2-10-6 Renton, Carter Oil et al 1 794
23- 8-6 Burden, Rapp et al 1-A ..... dry
33- 7-4 Ward, Turman et al 1 1200
31- 7-5 Vieux, Mid-Continent 2 80
23- 6-8 Scott, Huffman Bros. 1 ..... abd
15- 7-8 Haskett, Troup & O'Conner 4 60
20- 7-8 Campbell, Winona & Jarvis-Holm 1 375
22- 7-8 Moore, Maynard et al 1 50
20- 9-6 Fixico, Phillips Pet. 7 40
30- 8-8 Smith, Deep Rock 3 437
15- 7-8 Pickens, Elliott-Shell 1-A 107
30- 7-8 Fish, Jarvis & Holm 3 138

Wells completed 13
Production 3404
Dry 2

OSAGE COUNTY

8-25- 6 NW, I.T.I.O. & Palmer 1 65
21-24- 7 NW, Lewis Prod. Co. 1 605
14-23- 7 NE, Gypsy-Continental 1 50
29-23- 9 NE, Norbla Oil 1 150
26-21- 9 NW, C. T. Matthews 2-A ..... dry
1-20-11 NW, Norbla Oil 1 ..... dry
18-24- 8 SW, Gypsy Oil 1 ..... dry
13-25- 7 NW, The Texas Co. 1 ..... dry
9-24- 7 SE, Lewis Prod. 1 783
11-21-11 NE, Idaho Oil 6 40
35-25-11 SE, J. E. Morrison 1 30
15-24- 7 SW, Producers & Refiners 2 .. 192
16-24- 7 NE, Kashiske & Lewis Prod. 2 410

Wells completed 13
Production 2225
Dry 4

McINTOSH COUNTY

9-12-14 Jackson, Harmon Bros. 1-A... gas

OKMULGEE COUNTY

31-15-14 Franklin, Mack Drlg. 1-A .... dry
Likowski, Stekoll et al 3-A.. 20
18-13-13 Smith, Samples et al 2 ..... abd
20-12-13 Burgess, Rossiter Oil 7 20
30-14-12 Ingsdale, Colton & Phillips 1-A 115
4-15-11 Fife, Iron Mtn. Oil 5 100
25-14-12 Burton, Hazlett et al 4 ..... gas
17-14-13 Berryhill, A. J. Crist 1-A ..... gas

Wells completed 8
Production 255
Dry 2
Gas 2
Gas production 3,000,000

NOBLE COUNTY

16-20-2w Boley, Stanolind-Continental 1 85
18-20-2w Maxwell, The Texas Co. 1 .... abd
17-20-2w Magney, Lucien Consol. 1.....1600
33-20-3w Kolb, Stanolind-Amerada 1 ... 348

Wells completed 4
Production 2033
Dry 1

PAWNEE COUNTY

27-22-6 Schildber, Mainess 1 ..... dry

CREEK COUNTY

2-18- 8 Grayson, Dean et al 1-A 50
26-18- 8 Wills, L. B. Jackson 6 15
34-18- 8 Howard, Akin et al 1 150
34-18- 8 Tiger, Doss et al 1 200
35-18- 8 Harry, Akin et al 1 90
36-17-11 Thompson, Ningham Bros. 1-A 170
31-17-12 Beams, Banks & Page 2 ..... dry
19-19-10 Johnson O. & R. 4 10
10-17- 8 Sena, Titus et al 1 25
3-19- 8 Crosslin, Samples & Mann .... dry
1-19- 9 Carolina, Johnson O. & R. 2 .. 90
1-19- 9 Oglesby National Ref. 11 122
3-18- 8 Jackson, Gibson et al 2 40
26-18- 8 Secoe, Crosbie, Inc. 7 15
34-18- 8 Tiger, Foss et al 2 110
2-17- 8 Taylor, Henry et al 1 25
26-18- 8 Wills, L. B. Jackson 7 72
34-18- 8 Howard, Akin et al 2 200
22-18- 8 Tiger, C. O. Buckles 1 50
34-18- 8 Rentie, Doke & Hughes 1 40
34-18- 8 Tiger, Kilgore et al 1 200
34-18- 8 Tiger, Kilgore et al 2 150
3- 17- 8 Freeman, Shamblin et al 1 20

Wells completed 23
Production 1772
Dry 2

CARTER COUNTY

10-1s-3w Gray, Carter Oil 1 ..... dry
25-1s-5w Hopson, Samedan Oil 6 1224
3-1s-3w Nicholson, Carter Oil 1 ..... dry
13-1s-3w Carter, Foster Oil 1 200
3-1s-3w Bridenthal, Carter Oil 1 395
10-1s-3w Dolman, Carter Oil 1 ..... dry

Wells completed 6
Production 1819
Dry 3

JEFFERSON COUNTY

4-7s-5w Seay, Bridwell Oil et al 1 .... dry
3-7s-5w Seay, Farlyn Oil 11 40
3-7s-5w Seay, Farlyn Oil 12 35
3-7s-5w Seay, Farlyn Oil 13 40

Wells completed 5
Production 115
Dry 1

MARSHALL COUNTY

30-7s-6e Little, McCrory et al 2 7
25-7s-5e Ayers, Centrop 1-B 15

Wells completed 2
Production 22

STEPHENS COUNTY

29-2s-7w Bristow, Pace et al 1-A ..... gas
4-3s-5w Wilson, Owl Oil 16 8
28-2s-7w Duncan, Pace et al 2-A ..... dry

Wells completed 3
Production 8
Dry 1
Gas 1
Gas production 2,000,000

WAGONER COUNTY

35-18-15 Posey, J. E. Martin 1 ..... dry
2-17-15 Atkins, Cahill et al 1 ..... dry
13-17-15 McIntosh, Bonnell et al 1 .... dry
35-18-15 Kelly, J. E. Martin 4 ..... gas
2-17-15 Tiger, McIntire et al 4 ..... dry
16-18-17 Childers, L. R. Ash et al 1 130
2-17-15 Tiger, McIntire et al 5 75
22-17-16 Davis, Thomas et al 1 75
11-17-15 Berryhill, Knox & Shouse 1 .. dry
24-18-15 Derrisaw, Helvie & Stout 4 .... dry
35-18-15 Kelly, J. E. Martin 5 ..... dry
26-18-15 Snake, Sheridan Oil 5 20
2-17-15 Tiger, Cahill et al 3 30
5-17-16 Taylor, J. Secrist 1-A ..... gas

Wells completed 14
Production 330
Dry 7
Gas 2
Gas production 4,500,000

TULSA COUNTY

12-17-12 Coonhead, Howard & Duffield 1-A ..... dry
28-17-13 Bunger, McFadden 2 ..... dry
2-16-14 Wilcox, Bryan Pet. 1 ..... dry
19-16-14 Good, Norfolk Oil 1 ..... dry

Wells completed 4
Dry 4

PONTOTOC COUNTY

25-5-4 Standridge, Denver P. & R. 1 .. 90
22-2-7 Wooley, Sledge et al 1 ..... gas
29-5-8 Smith, H. & M. Drlg. 3-A 5
27-5-6 Miller, Huckleberry 1 60

Wells completed 4
Production 155
Dry 0
Gas 1
Gas production 15,000,000

BECKHAM COUNTY

28-9-23w Beagle, Coogan et al 1 ..... gas

Wells completed 1
Gas production 23,000,000

PITTSBURG COUNTY

9-17-18 State Bank, Utilities Prod. 5...gas

Wells completed 1
Gas production 1,000,000

MUSKOGEE COUNTY

8-15-19 Bema, Foltz et al 1 ..... dry
6-14-19 McDaniel, W. J. Metzgar 2 ... 15

Wells completed 2
Production 15
Dry 1

OKFUSKEE COUNTY

2-11-11 Fields, Mid-Continent 1-B 500
14-10-11 Stephenson, Wells et al 2 .... gas

Wells completed 2
Production 500
Gas 1
Gas production 7,000,000

Kansas Fields

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Sedgwick	4	2,392	0	0
Greenwood	12	375	2	1
Woodson	2	50	0	0
Reno	3	205	1	1
Harvey	7	5,671	1	0
Cowley	2	5	1	0
Rice	9	6,095	0	0
Kingman	2	1,160	0	0
McPherson	7	2,285	0	0
Ellsworth	2	230	0	0
Total November	50	17,368	5	2
Total October	58	16,012	8	1
Difference	8	1,356	3	1

Rigs and Wells Drilling

County—	Rigs	Dig.	Ttl.
Greenwood	0	8	8
Butler	0	2	2
Cowley	0	1	1
McPherson	2	34	36
Harvey	7	27	34
Sedgwick	3	8	11
Barton	0	6	6
Rice	3	15	18
Russell	0	3	3
Ellis	0	2	2
Rush	0	3	3
Edwards	0	1	1
Finney	0	1	1
Kingman	0	4	4
Pratt	0	1	1
Reno	1	8	9
Rooks	0	1	1
Saline	0	1	1
Stafford	0	1	1
Trego	0	1	1
Total November	16	128	144
Total October	28	127	155
Difference	12	1	11

WELLS COMPLETED

SEDGWICK COUNTY

1-26-1w Wilson, Skelly and Solar 15.. 160
15-26-2e Lygrisse, Shell Pet. 8 1052
30-27-2e Keys, Vickers Pet. 3 30
15-26-2e Lygrisse, Shell Pet. 6-A 1150

Completed 4
Production 2392

GREENWOOD COUNTY

6-24-12 Shook, Rex et al 1-A ..... dry
32-23-11 Beal, Ward McGinnis 2 20
6-25-13 Gilroy, Bisagno et al 7-A 15
14-25-13 Mason, Cross & Fields 2 ..... dry
28-22-11 Clark, L. M. Jones 7 15
33-22-11 Westcott, York State Oil 14 ... 35
33-22-11 Westcott, York State Oil 15 ... 6
5-25-13 Hollister, Mendenhall et al 2.. 15
6-24-12 Smith, Markus & Gore 3 220
17-24-13 Aldans, Anderson & Pence 1-A 34
33-23-11 Carson, Harwood Oil 6 15
15-26-11 Butler, Kite et al 1 ..... gas

Completed 12
Production 375
Dry 2
Gas 1
Gas production 3,000,000

WOODSON COUNTY

6-24-14 Winterschied, O.K.O. Oil 2 ... 40
33-23-14 Shaffer, Theta Oil 7 10

Completed 2
Production 50

RENO COUNTY

36-22-4w Bartel, Hollow et al 1 205
35-23-4w Gorwin, Olson and Shell 2 .... gas
35-23-5w Patten, Mylius et al 1 ..... dry

Completed 3
Production 205
Dry 1
Gas 1
Gas production 4,000,000

HARVEY COUNTY

19-22-2w Ediger, Sinclair Prairie 4 ... 750
8-22-3w Neufeldt, Shell Pet. 1 600
17-22-3w Schmidt, Hollow et al 4 1320
20-22-3w Froese, Stanolind-Amerada 4.. 575
19-22-3w Duerksen, Mid-Kansas 6 1123
8-22-1e Beatvater, L. H. Wentz ..... dry
19-22-3w Martens, Prod. & Refrs. 7 ...1302

Completed 7
Production 5671
Dry 1

COWLEY COUNTY

10-31-3 Denton, Hunt & Barker 1 5
22-32-4 Hutto, McNabb et al 4 ..... dry

Completed 2
Production 5
Dry 1

RICE COUNTY

32-19-9w Lisk, Gypsy Oil 1 300
16-19-9w Reese, National and Barnsdall 1 (4 hrs.) 38
31-19-9w Saint, Ramsey et al 1 1392
31-19-9w Day, Waggoner et al 1 1314
32-19-9w Rife, Gypsy Oil 1 282
32-19-9w Willie, Keith, et al 1 166
31-19-9w Kennedy, Gypsy Oil 1 423
32-19-9w Rice, Ramsey et al 3 960
32-19-2w Beyer, Ramsey et al 1 1205

Completed 9
Production 6095

KINGMAN COUNTY

19-27-10w North Miles, Skelly Oil 2 (2 hrs.) 160

30-27-10w Interurban, Skelly Oil 1 1000

Completed 2
Production 1167

McPHERSON COUNTY

8-20-1w Vogts, Regina O. & G. 1 (6 hrs.) 196
36-19-2w Wiggers, Lario & Shell 3 170
36-19-2w Johnson, Olson & Shell 4 130
19-19-1w Sellers, Deiter & Youker 3 ... 130
28-19-1w Hamilton, Gleason et al 1 ... 160
33-21-2w Friesen, Mabee & Shell 1 1424
2-20-3w Gray, Dickey and I.T.I.O. 75

Completed 7
Production 2285

ELLSWORTH COUNTY

8-20-11w Andrea, Stanolind O. & G. 1. 90
12-20-11w Isern, Hilligoss et al 2 140

Completed 2
Production 230

East Central Texas Fields

Summary of Wells Completed

County—	Comp.	Prod.	Abd.	Gas
Anderson	1	72	0	0
Bowie	1	0	1	0
Gregg	171	10,837	1	0
Henderson	1	0	1	0
Hopkins	1	0	1	0
Rusk	126	8,585	2	1
Smith	8	655	0	0
Upshur	16	792	1	0
Van Zandt	4	100	2	0
Total Nov.	329	21,041	9	1
Total Oct.	317	20,801	10	1
Difference	12	240	1	0

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Dig.	Ttl.
Anderson	2	0	1	3
Angelina	0	0	2	2
Bowie	1	0	0	1
Cherokee	1	0	1	2
Ellis	1	0	0	1
Franklin	0	1	0	1
Freestone	1	1	0	2
Gregg	24	5	150	179
Henderson	2	0	1	3
Hill	1	0	0	1
Hopkins	1	0	0	1
Hunt	1	0	1	2
Kaufman	0	1	0	1
Leon	3	0	1	4
Morris	2	2	1	5
Rusk	15	8	92	115
Smith	2	1	3	6
Rains	1	0	0	1
Upshur	5	3	6	14
Van Zandt	1	5	3	9
Total Nov.	64	27	262	353
Total Oct.	69	39	258	366
Difference	5	12	4	13

WELLS COMPLETED

ANDERSON COUNTY

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 Long Lake plantation 72

Completions 1
Production 72

BOWIE COUNTY

Tom Bell et al's No. 1 C. M. Moss ... abd

Completions 1
Abandoned 1

HENDERSON COUNTY

Bill Larue et al's No. 1 G. L. Smith .. abd

Completions 1
Abandoned 1

HOPKINS COUNTY

W. B. Hinton's No. 1 Worsham (formerly Hager & Ashby) ..... abd

Completions 1
Abandoned 1

GREGG COUNTY

Adams & Lyles' No. 7 T. Anderson, open tubing 70
Arkansas Fuel Oil Co.'s No. 17 Burnside, ¾-in. tubing, ½ hr. 38
Arkansas Fuel Oil Co.'s No. 18 Burnside, ¾-in. tubing, ½ hr. 35
Atlantic Oil Prod. Co.'s No. 6 Bacle, open tubing 80
Atlantic Oil Prod. Co.'s No. 46 Moore, open tubing 85
Atlantic Oil Prod. Co.'s No. 11 Prichard, open tubing 80
Glazier et al's No. 1 Bumpass, open tubing 80
Gulf Prod. Co.'s No. 47 J. C. Judge, open tubing 84
Heyser & Heard's No. 5 L. Tuttle, open tubing 85
Humble O. & R. Co.'s No. 9 A. L. Hughes ¾-in. tubing 66
Humble O. & R. Co.'s No. 5-A J. H. Sheppard, ¾-in. tubing 67
Iron Rock Oil Co.'s No. 2 Foshee, open tubing 75
Magnolia Pet. Co.'s No. 6 Clem Jones, open tubing 105
Magnolia Pet. Co.'s No. 10 R. B. White, open tubing 114
N. P. Powell's No. 2 S. White, open tubing 90
Selby O. & G. Co.'s No. 3-A Snavely hrs., open tubing 65
Sinclair Prairie Oil Co.'s No. 27 M. Moncrief, 11/16-in. tubing 61
Adams & Lyles' No. 7 L. Howard, open tubing 85
Bostex Oil Co.'s No. 4 A. Spear, open tubing 100
Clover Leaf Oil Co.'s No. 1 M. T. Cole, ¾-in. tubing, ½ hr. 27
Humble O. & R. Co.'s No. 37-B S. S. Laird, open tubing 88
Island Oil Co.'s No. 3 Williams, open tubing 80
Magnolia Pet. Co.'s No. 8 M. B. Hughey, open tubing 32
Sells Pet. Co.'s No. 4 E. Sibley, open tubing 75
Schultz' No. 1 Williams, open tubing .. 75
Sinclair Prairie Oil Co.'s No. 13 S. G. Andrews, 3 hrs. 25
Sinclair Prairie Oil Co.'s No. 38 M. T. Cole, open tubing, ¼ hr. 25
Sinclair Prairie Oil Co.'s No. 28-A A. A. King, open tubing, ¼ hr. 15
Sinclair Prairie Oil Co.'s No. 34-B A. A. King, open tubing 15
Sinclair Prairie Oil Co.'s No. 37-B A. A. King, open tubing, ¼ hr. 15
Sun Oil Co.'s No. 9 Wm. Penticost, open tubing 65
Texas Co.'s No. 21 M. T. Cole, open tubing 78
Amerada Pet. Corp.'s No. 2 S. S. Smith, open tubing, ½ hr. 16
Arkansas Fuel Oil Co.'s No. 6 L. E. Orms, open tubing, ¼ hr. 30
Atlantic Oil Prod. Co.'s No. 48 Moore, open tubing 75
Atlantic Oil Prod. Co.'s No. 51 Moore, open tubing 85
Atlantic Oil Prod. Co.'s No. 53 Moore, open tubing 80
Atlantic Oil Prod. Co.'s No. 54 Moore, open tubing 85
J. G. Bearc's No. 5 W. L. Fuller, open tubing 50
Black-Collins and Stroube's No. 4 John Spurrier, open tubing 85
East Texas O. & R. Co.'s No. 6 D. Caldwell, open tubing 42
East Texas O. & R. Co.'s No. 13 F. White, open tubing, 20 min. 40
Faith Oil Co.'s No. 6 Barrett, open tubing, ¼ hr. 24
Gulf Prod. Co.'s No. 55 Judge, open tubing 70
Gulf Prod. Co.'s No. 57 Judge, open tubing 80
P. L. Hoffman's No. 3 W. N. Collum, open tubing 70
Howard Pet. Co.'s No. 6 Stuckey-Thrasher, open tubing 85
Humble O. & R. Co.'s No. 16 T. M. Armstrong, ¾-in. tubing 47
W. R. Jones' No. 4 R. P. Dodge, open tubing 75
Lester & Duffield's No. 7 Moore, open tubing, 20 min. 40
Long Drig. Co.'s No. 4-A Owens, open tubing 75
Magnolia Pet. Co.'s No. 12 O. F. Smith 105
Massie et al's No. 7 J. W. Orr 55
Navarro Oil Co.'s No. 7 E. L. Walker, open tubing 59
N. P. Powell's No. 3 S. White, open tubing 75
Roeser & Pendleton's No. 3 J. T. Perkins, open tubing, 38 min. 44
Sinclair Prairie Oil Co.'s No. 10-A J. W. Akin, open tubing, ¼ hr. 25
Sinclair Prairie Oil Co.'s No. 28 M. Moncrief, open tubing, ¼ hr. 25
Sun Oil Co.'s No. 14 J. W. Akin, open tubing 32
Sun Oil Co.'s No. 18 Haynes, open tubing, ¼ hr. 25
Sun Oil Co.'s No. 7-A A. Tooke, open tubing, ¼ hr. 20
Tide Water Oil Co.'s No. 6 W. Christain, open tubing, 10 min. 9
Atlantic Oil Prod. Co.'s No. 9 M. B. Hughey, open tubing 75
Gladiator Oil Co.'s No. 6 M. T. Cole, open tubing, ½ hr. 50
John Mabee's No. 17 M. T. Cole, open tubing 90
Paul L. Miller's No. 1-A Laird, open tubing, 22 min. 44
W. S. Randall's No. 1 Anna Bell, open tubing 75
Rhoads Drig. Co.'s No. 13 Sabine River, open tubing, ½ hr. 50
Rhoads Drig. Co.'s No. 17 Sabine River, open tubing, ½ hr. 50
Rhoads Drig. Co.'s No. 29 Sabine River, open tubing, ½ hr. 50
Shultz' No. 2 Williams, open tubing ... 60
Sinclair Prairie Oil Co.'s No. 29-A A. A. King, open tubing, ¼ hr. 20
Texas Co.'s No. 13 H. T. Elder, open tubing, 90 min. 105
Vise et al's No. 3-B Cumi Wells, open tubing, ½ hr. 72
C. J. Webster et al's No. 2 L. Martin, open tubing 50
Adams & Lyles' No. 8 T. Anderson, open tubing 65
Amada Oil Co.'s No. 4 D. A. Magrill, open tubing 50
Amatex Oil Co.'s No. 4 Jones, open tubing, ½ hr. 65
Arkansas Fuel Oil Co.'s No. 1 W. T. Burnside, ¾-in. tubing, ½ hr. 53
Arkansas Fuel Oil Co.'s No. 6 F. T. Rembert, ¾-in. tubing, ½ hr. 16
Atlantic Oil Prod. Co.'s No. 3 Clements, open tubing 45
Atlantic Oil Prod. Co.'s No. 7 Harris, open tubing 60
East Texas O. & R. Co.'s No. 4 W. Christian, open tubing, ½ hr. 80
East Texas O. & R. Co.'s No. 4 Sparks, open tubing 48
Empire Gas & Fuel Co.'s No. 7 J. W. Akin, open tubing, ¼ hr. 21
Empire Gas & Fuel Co.'s No. 15 T. W. Lee, open tubing 65
Empire Gas & Fuel Co.'s No. 6 Rodgers, open tubing 75
Faith Oil Co.'s No. 7 J. C. Barrett, open tubing, ½ hr. 42
Gulf Prod. Co.'s No. 48 Judge, open tubing 70
Gulf Prod. Co.'s No. 54 Judge, open tubing 70
Humble O. & R. Co.'s No. 18 W. W. Holland, ¾-in. tubing 59
Humble O. & R. Co.'s No. 10 A. L. Hughes, ¾-in. tubing 63
Humble O. & R. Co.'s No. 10 W. R. Hughes, ¾-in. tubing 59
Humble O. & R. Co.'s No. 24 W. R. Hughes, open tubing, ¼ hr. 16
Iowa Payne Oil Co.'s No. 3 J. W. Akin, open tubing 80
J. M. Jones et al's No. 1 Bramlett .... abd
Lesh & McCall's No. 7 M. Young, open tubing 125
Magnolia Pet. Co.'s No. 6 A. J. Green, open tubing 90
Prince Bros.' No. 7 Williams, open tubing 80
Shell Pet. Corp.'s No. 9 S. C. Fishburn, open tubing, ¼ hr. 21
Shell Pet. Corp.'s No. 25 J. M. Moore, open tubing 35
Simms and Stanolind O. & G. Co.'s No. 24-B Flewellen, ¼ hr. 22
Sinclair Prairie Oil Co.'s No. 12 Mary Lawson, open tubing, ¼ hr. 30
Stanolind O. & G. Co.'s No. 7 Albright, 2-in. tubing, ¼ hr. 21
Sun Oil Co.'s No. 16 J. W. Akin, open tubing 75
Tide Water Oil Co.'s No. 9 A. F. Sheppard, open tubing, 10 min. 13
Twin Oil Co.'s No. 10 M. Bonner, open tubing, ¼ hr. 25
Yount Lee Oil Co.'s No. 1 V. A. Skipper & Gardner, 11/16-in. tubing 49
Adams & Lyles' No. 8 L. Howard, open tubing 80
American Liberty Oil Co.'s No. 9 L. D. Griffin, open tubing 125
East Texas O. & R. Co.'s No. 6 E. Mitchell, open tubing 100
Burke Field's et al's No. 2 I.&G.N.R.R., open tubing 100
Galvez Oil Co.'s No. 6 M. T. Cole, open tubing 90
Humble O. & R. Co.'s No. 14 J. A. Knowles, open tubing 60
Invincible Oil Co.'s No. 4 Weiss, open tubing 125
J. E. Lucas Oil Co.'s No. 1 J. S. King, open tubing 25
John Mabee's No. 12 M. T. Cole, open tubing 100
Marine Oil Corp.'s No. 3 W. R. Crim, open tubing 125
W. S. Randall's No. 1 T. Neal, open tubing 125
Rhoads Drig. Co.'s No. 24 Sabine River, open tubing, ½ hr. 50
Rhoads Drig. Co.'s No. 19 Sabine River, open tubing, ½ hr. 50
Shell Pet. Corp.'s No. 16-A B. F. Laird, open tubing, ½ hr. 42
Sinclair Prairie Oil Co.'s No. 30-A A. A. King, open tubing, ¼ hr. 15
Sinclair Prairie Oil Co.'s No. 33-B A. A. King, open tubing, ¼ hr. 20
Sinclair Prairie Oil Co.'s No. 35-B A. A. King, open tubing, ¼ hr. 20
Sinclair Prairie Oil Co.'s No. 36-B A. A. King, open tubing, ¼ hr. 20
Sun Oil Co.'s No. 25 M. T. Cole, open tubing 57
Sun Oil Co.'s No. 10 Wm. Penticost, open tubing 61
Texas Co.'s No. 23 M. T. Cole, open tubing 85
Tide Water Oil Co.'s No. 7 Wm. Clayton, open tubing 48
Tide Water Oil Co.'s No. 7 W. D. Lacy, open tubing, 10 min. 11
H. L. Allen's No. 2 M. Bonner, open tubing 50
Arkansas Fuel Oil Co.'s No. 5-B D. B. McPherson, open tubing, ½ hr. 59
Atlantic Oil Prod. Co.'s No. 22-A Burnside, open tubing 80
Atlantic Oil Prod. Co.'s No. 25-A Burnside, open tubing 85
Atlantic Oil Prod. Co.'s No. 2-A Flemister, open tubing 85
Atlantic Oil Prod. Co.'s No. 52 Moore, open tubing 80
Bond & Dillard's No. 8 J. C. Barrett, open tubing 60
East Texas O. & R. Co.'s No. 10 A. Christian, open tubing, ½ hr. 33
East Texas O. & R. Co.'s No. 12 F. White, open tubing, 20 min. 35
Empire Gas & Fuel Co.'s No. 14 T. W. Lee, open tubing 80
F. H. E. Oil Co.'s No. 3 M. Christian, open tubing 80
Gulf Prod. Co.'s No. 52 Judge, open tubing 73
Humble O. & R. Co.'s No. 14 T. M. Armstrong, ¾-in. tubing 77
Lester & Duffield's No. 8 J. Moore, 1-in. tubing, ½ hr. 40
Roeser & Pendleton's No. 4 J. T. Hopkins, open tubing 75
Selby O. & G. Co.'s No. 2-A Snavely hrs., open tubing, ½ hr. 66
Sinclair Prairie Oil Co.'s No. 29 Moncrief, open tubing, ¼ hr. 25
Sinclair Prairie Oil Co.'s No. 30 Moncrief, open tubing, ¼ hr. 25
Stanolind O. & G. Co.'s No. 5 M. E. Harley, 2-in. tubing, 32 min. 38
Stanolind and Simms Oil Co.'s No. 7 Akin, 2-in. tubing, ¼ hr. 16
Stanolind and Simms Oil Co.'s No. 9 Akin, 2-in. tubing, ¼ hr. 16
Stanolind O. & G. Co.'s No. 8 Fonville, 2-in. tubing, ¼ hr. 11
Sun Oil Co.'s No. 19 J. M. Haynes, open tubing 75
Telluric Oil Corp.'s No. 1 Adams, open tubing 80
Texota Oil Corp.'s No. 3 Mollie Fenn, 1-in. tubing choke 75
Washington Oil Corp.'s No. 5 C. A. Cobb, open tubing 50
Yount Lee Oil Co.'s No. 7 Stuckey-Thrasher, 11/16-in. tubing choke 62
Skelly Oil Co.'s No. 2 M. T. Cole, open tubing 100
Continental Oil Co.'s No. 2 A. A. King, 1½-in. tubing choke, ¼ hr. 21
Elliott et al's No. 2 Benson, open tubing 75
Maurice Stewart's No. 1 E. Smith, open tubing 75
John Mabee's No. 16 M. T. Cole, open tubing 100
John Mabee's No. 19 M. T. Cole, open tubing 100
Rhoads Drig. Co.'s No. 15 Sabine River, open tubing, ½ hr. 50
Salmon Oil Co.'s No. 5 W. Smith, open tubing, 2 hrs. 220
Sinclair Prairie Oil Co.'s No. 31-A A. A. King, open tubing, ¼ hr. 35
Sinclair Prairie Oil Co.'s No. 14-B A. A. King, open tubing, ¼ hr. 20
Sinclair Prairie Oil Co.'s No. 15-B A. A. King, open tubing, ¼ hr. 20
Texas Co.'s No. 24 M. T. Cole, open tubing 70
Texas Co.'s No. 14 H. T. Elder, open tubing 70

Completions 171
Production 16,837
Abandoned 1

RUSK COUNTY

Houston Oil Co.'s No. 3-A W. P. Brightwell, open tubing 91
Humble O. & R. Co.'s No. 86 L. D. Crim, open tubing 126
Humble O. & R. Co.'s No. 93 L. D. Crim, open tubing 120
Humble O. & R. Co.'s No. 9-B W. P. Moore, open tubing 94
Shasta Oil Co.'s No. 3 Alexander, open tubing, 20 min. 15
Snowden & McSweeney's No. 5 F. Bean, open tubing, ½ hr. 15
Tide Water Oil Co.'s No. 6-A Buntyn, open tubing, ½ hr. 45
American Liberty Oil Co.'s No. 5-A J. E. Shecklan, open tubing 45
F. H. E. Oil Co.'s No. 4-D M. T. Thompson, open tubing, ½ hr. 30
Gulf Prod. Co.'s No. 7 O. H. Grissom, ¾-in. tubing choke 35
Hickman et al's No. 2 M. L. Thompson, open tubing 75
Humble O. & R. Co.'s No. 8 M. D. Caldwell, open tubing 75
Humble O. & R. Co.'s No. 7-A June Florey, ¾-in. tubing 70
Humble O. & R. Co.'s No. 38-A M. and K. Kangerga, open tubing 75
Humble O. & R. Co.'s No. 30-A S. H. Plowman, open tubing 85
Humble O. & R. Co.'s No. 16 C. J. Thompson, open tubing 88
Humble O. & R. Co.'s No. 13 J. E. Wheelis, open tubing 75
Humble O. & R. Co.'s No. 4-A Wilson, open tubing 86
Hunt Prod. Co.'s No. 2 W. M. Camp, 45 min. 20
Hunt Prod. Co.'s No. 14-C R. W. Fair, open tubing 85
Hunt Prod. Co.'s No. 14 C. Young, open tubing 65
McMahon et al's No. 5 Joe Lee, open tubing 50
Merrick Drig. Co.'s No. 4 Neal Cooper, open tubing 5
Mid-Kansas O. & G. Co.'s No. 15 H. C. and G. W. Burton, open tubing 86
Mid-Kansas O. & G. Co.'s No. 60 M. M. Cross, open tubing 64
Mid-Kansas O. & G. Co.'s No. 62 M. M. cross, open tubing 148
Mid-Kansas O. & G. Co.'s No. 83 W. T. Grissom, open tubing 130
Mid-Kansas O. & G. Co.'s No. 21 S. H. Moores, open tubing 64
Smith & Hazlip's No. 3 M. L. Thompson, open tubing, ¼ hr. 15
Stanolind and Pure Oil Co.'s No. 21 R. A. Moores, open tubing, 25 min. 27
Tide Water Oil Co.'s No. 7 Ras Pool, open tubing, ¼ hr. 20
Humble O. & R. Co.'s No. 99 L. D. Crim, open tubing 106
Humble O. & R. Co.'s No. 20 J. N. Peterson, open tubing 120
Kathleen Oil Co.'s No. 4 J. N. Peterson, open tubing, 20 min. 50
McDonald Bros.' No. 4 Brock est., open tubing 60
Navarro Oil Co.'s No. 10 R. N. Brightwell, open tubing 75
P. & A. Oil Co.'s No. 2 Brightwell, open tubing 50
Paterson Drig. Co.'s No. 3 Brock est, open tubing 750
Tide Water Oil Co.'s No. 8 Leverett, open tubing, ¼ hr. 30
S. K. Vierson's No. 4-A Andy Given, open tubing 65
Wheelock & Collins' No. 2 Dick Wells, open tubing 30
American Liberty Oil Co.'s No. 1 Arnold abd
American Liberty Oil Co.'s No. 6 C. Young, open tubing 50
Collins-Stroube & Stroube's No. 7 L. J. Pinkston, open tubing 60
Dearing et al's No. 1 McDavid, ¾-in. tubing choke 47
Dunken & Holt's No. 5 R. A. Motley, open tubing, ¼ hr. 25
Humble O. & R. Co.'s No. 12 I. Glover, open tubing 45
Humble O. & R. Co.'s No. 4-A W. P. Moore, open tubing 75
Humble O. & R. Co.'s No. 6 J. L. Pitner, 2-in. tubing 54
Humble O. & R. Co.'s No. 25-A S. A. Plowman, open tubing 75
Humble O. & R. Co.'s No. 29 J. W. Turner, 2-in. tubing 89
Hunt Prod. Co.'s No. 13-C R. W. Fair, open tubing 75
Hunt Prod. Co.'s No. 11-A H. C. Maxwell, open tubing 80
McMahon et al's No. 4 J. Lee, open tubing, ½ hr. 27
Mid-Kansas O. & G. Co.'s No. 47 W. T. Grissom, open tubing 88
Mid-Kansas O. & G. Co.'s No. 52 W. T. Grissom, open tubing 98
Sinclair Prairie Oil Co.'s No. 38 W. R. Kinney, open tubing, ¼ hr. 29
Sinclair Prairie Oil Co.'s No. 41 W. D. Kinney, open tubing, ¼ hr. 30
Sutton et al's No. 2 M. Wilson, swabbing, 3 hrs. 20
Turman Oil Co.'s No. 6 Kangerga, open tubing 120
Venable & McClanahan's No. 6 Flannigan, open tubing 180
Joe Zeppa, Jr.'s No. 4 J. Menschew, open tubing, ½ hr. 40
Humble O. & R. Co.'s No. 97 L. D. Crim, open tubing 110
Humble O. & R. Co.'s No. 98 L. D. Crim, open tubing 98
Humble O. & R. Co.'s No. 9-A H. Sexton, ¾-in. tubing choke 78

Magnolia Pet. Co.'s No. 6 S. E. Cox, open tubing, ¼ hr. 23
Navarro Oil Co.'s No. 2 W. A. Hinc'man, open tubing, ¼ hr. 50
Tide Water Oil Co.'s No. 10 Leverett, open tubing, ¼ hr. 20
Woodley Pet. Co.'s No. 4 J. N. Peterson, open tubing, ¼ hr. 35
Barney Cockburn's No. 5 N. Green, open tubing 70
Tress Oil Co.'s No. 2-B Tolliver, open tubing 25
East Texas O. & R. Co.'s No. 3 O'Quinn, open tubing 75
East Texas O. & R. Co.'s No. 1-C Ras Pool, open tubing 65
Falcon Oil Co.'s No. 12 O. Mason, open tubing 65
Gulf Prod. Co.'s No. 9 W. A. Maxwell, ⅝-in. tubing, ½ hr. 30
Humble O. & R. Co.'s No. 7 R. A. Barksdale, open tubing 80
Humble O. & R. Co.'s No. 6 C. A. Brightwell, open tubing 75
Humble O. & R. Co.'s No. 13 J. E. Glover, open tubing 50
Humble O. & R. Co.'s No. 13 F. R. Guerin, open tubing 85
Humble O. & R. Co.'s No. 5 A. Holt, open, tubing 80
Hunt Prod. Co.'s No. 8-B Ashby, pumping, 3 hrs. 20
Hunt Prod. Co.'s No. 8-D Bradford, pumping, 3 hrs. 20
Hunt Prod. Co.'s No. 12-C R. W. Fair, open tubing, ½ hr. 50
Lion O. & R. Co.'s No. 14-B H. Brooks, open tubing 76
Mid-Kansas O. & G. Co.'s No. 58 M. M. Cross, open tubing 80
Mid-Kansas O. & G. Co.'s No. 15 M. A. Price, open tubing 54
Mid-Kansas O. & G. Co.'s No. 1 L. W. Prior ..... gas
Sinclair Prairie Oil Co.'s No. 4 D. Bradford, open tubing, ¼ hr. 14
Sinclair Prairie Oil Co.'s No. 4 W. D. Kinney, open tubing, ¼ hr. 27
Sinclair Prairie Oil Co.'s No. 10 F. B. Wilson, open tubing, ½ hr. 35
Stanolind O. & G. Co.'s No. 7 R. G. and T. O. Mason, open tubing, 26 min. .. 26
Sun Oil Co.'s No. 6 Selman, open tubing 60
Texas Co.'s No. 9 J. L. Pinkston, open tubing 55
Gulf Prod. Co.'s No. 79 Laird, open tubing 97
Humble O. & R. Co.'s No. 100 L. D. Crim, open tubing 122
Humble O. & R. Co.'s No. 102 L. D. Crim, open tubing 75
Humble O. & R. Co.'s No. 11-A B. F. Laird, open tubing 142
Humble O. & R. Co.'s No. 7 R. H. and W. L. Laird, open tubing 134
Kathleen Oil Co.'s No. 5 J. N. Peterson, open tubing 86
Magnolia Pet. Co.'s No. 5 Wm. Jernigan, open tubing, ¼ hr. 31
Navarro Oil Co.'s No. 11 R. N. Brightwell, open tubing 75
Republic Prod. Co.'s No. 5 Scroggins, open tubing, ¼ hr. 30
Shell Pet. Corp.'s No. 14 R. Russell, open tubing, ½ hr. 30
Stanolind O. & G. Co.'s No. 5 M. B. King, 2-in. tubing, ⅝-in. tubing choke, 45 min. 50
Sam K. Vierson's No. 8-A Andy Givens, open tubing 70
Wheelock & Collins' No. 3 D. Wells, open tubing 60
Ajo Oil Co.'s No. 7 Sanders, open tubing 50
American Liberty Oil Co.'s No. 7-C Young, open tubing 90
Collins-Stroube & Stroube's No. 8 L. J. Pinkston, open tubing 60
East Texas O. & R. Co.'s No. 8 O. H. Grissom, open tubing 60
Great State Oil Co.'s No. 1 Giles, open tubing 65
Humble O. & R. Co.'s No. 9 Jones-Fuller, 1-in. tubing 75
Humble O. & R. Co.'s No. 36-A M. and R. Kangerga, open tubing 102
Humble O. & R. Co.'s No. 9-B White, open tubing 65
Hunt Prod. Co.'s No. 9-B Bradford, pumping, 3 hrs. 20
Mid-Kansas O. & G. Co.'s No. 14 H. C. and G. W. Burton, open tubing 84
Mid-Kansas O. & G. Co.'s No. 46 W. T. Grissom, open tubing 80
Mid-Kansas O. & G. Co.'s No. 20 S. H. Moores, open tubing 50
O'Hearn Oil Co.'s No. 6 M. M. McMillan, open tubing 60
Sinclair Prairie Oil Co.'s No. 42 W. D. Kinney, open tubing, ¼ hr. 25
Sinclair Prairie Oil Co.'s No. 43 S. D. Kinney, open tubing, ¼ hr. 38
Stanolind and Pure Oil Co.'s No. 2 Ras Lacy ..... abd
Summitt Drlg. Co.'s No. 10 Mayfield Grocery 135
Sun Oil Co.'s No. 5 Mason, open tubing, ½ hr. 25
Tide Water Oil Co.'s No. 5 Flannigan, open tubing, ¼ hr. 26
Ward Oil Co.'s No. 18 E. S. Thrash, open tubing 55

Completions 126
Production 8535
Gas 1
Abandoned 2

SMITH COUNTY

Mid-Kansas O. & G. Co.'s No. 27 J. H. Sharp, open tubing 64
Weaver-Crim Oil Corp.'s No. 6 T. Stone, open tubing 75
W. L. Sessions' No. 5 Stone, open tubing 85
Texas Co.'s No. 9-B A. S. Jarvis, open tubing 60
R. J. McMurray's No. 5 F. Cole, open tubing 75
R. J. McMurray's No. 3 Roberson, open tubing 130
Texas Co.'s No. 11 Blackwell, open tubing 90
Texas Co.'s No. 9 J. W. Wilson, open tubing 106

Completions 2
Production 655

UPSHUR COUNTY

Humble O. & R. Co.'s No. 22 J. K. Edwards, ⅝-in. tubing 48
Sabinas Oil Co.'s No. 4-B J. C. Falvey, open tubing 85
Chatham Oil Co.'s No. 4 H. Finton, open tubing 65
Cranfill & Reynolds' No. 3 Graves, open tubing 75
Flannigan et al's No. 3 fee, open tubing 86
Humble O. & R. Co.'s No. 7 A. O. Phillips, ⅝-in. tubing 32
Humble O. & R. Co.'s No. 5 J. M. Smith, open tubing, ¼ hr. 15
J. E. Mabee's No. 5 Whitehurst, open tubing 55
East Texas O. & R. Co.'s No. 7-B Doby, open tubing 40
Humble O. & R. Co.'s No. 8-B J. T. Miller, ⅝-in. tubing choke 47
Margay Oil Co.'s No. 7 Victory, open tubing 81
Rancho Oil Co.'s No. 11 J. K. Edwards, open tubing 50
C. H. Lyons et al's No. 1 E. L. Starr.. abd
Stroube & Stroube's No. 8 R. J. Mackey, open tubing 40
Sun Oil Co.'s No. 1 J. O. Byrne, open tubing 33
Joe Zeppa's No. 3 Victory, open tubing 50

Completions 16
Production 792
Abandoned 1

VAN ZANDT COUNTY

George Ray et al's No. 1 W. C. Wilson abd
Pure Oil Co.'s No. 5 J. J. Murphree .... abd
Pure Oil Co.'s No. 5 J. F. Crim 82
Peden & Olsen's No. 2 W. S. Branson .. 18

Completions 4
Production 100
Abandoned 2

North Central Texas Fields

Summary of Wells Completed

County—	Comp.	Prod.	Abd.	Gas
Archer	43	6,136	6	0
Baylor	1	0	1	0
Brown	11	72	7	0
Callahan	4	0	3	1
Clay	3	11	1	0
Coleman	2	25	0	0
Eastland	1	0	1	0
Jack	3	10	2	0
Montague	1	70	0	0
Shackelford	8	225	3	0
Throckmorton	4	0	4	0
Wichita	5	0	5	0
Wilbarger	4	165	0	0
Young	37	1,687	14	0
Total Nov.	127	8,401	47	1
Total Oct.	162	8,811	60	2
Difference	35	410	13	1

Rigs and Wells Drilling

County—	Rigs	S.D.	Drlg.	Ttl.
Archer	13	8	31	52
Baylor	0	1	1	2
Brown	2	1	3	6
Callahan	3	1	4	8
Clay	0	1	2	3
Coleman	1	1	4	6
Cooke	4	1	0	5
Eastland	2	1	3	6
Erath	0	1	0	1
Foard	1	1	2	4
Grayson	0	1	3	4
Jack	0	1	2	3
Johnson	0	2	0	2
Montague	2	0	2	4
Palo Pinto	1	2	4	7
Parker	1	3	0	4
Shackelford	3	4	3	10
Stephens	1	3	2	6
Taylor	0	1	3	4
Tarrant	0	2	0	2
Wichita	2	3	2	7
Throckmorton	1	0	3	4
Wilbarger	2	1	4	7
Wise	0	1	2	3
Young	10	5	18	33
Total Nov.	49	46	98	193
Total Oct.	56	46	131	233
Difference	7	0	33	40

WELLS COMPLETED

ARCHER COUNTY

Bridwell Oil Co.'s No. 23 Oil Investment 20
Fain & McGaha's No. 1 Parkey ..... abd
Art & Carter's No. 4 Arnold 90
C. W. Boller's No. 1 Perkins ..... abd
Conoco & Cullum's No. 10 Falls County School Lands 190
W. R. Cooper et al's No. 2 Hamilton.. 50
H. Craig et al's No. 4 Harmonson .. 12
F. P. Cullum's No. 4 Logan 45
Fain & McGaha's No. 3 Falls County School Lands 150
Jack Grace's No. 1 B. C. Andrews 60
W. B. Hamilton's No. 16 Abercrombie.. 113
W. B. Hamilton's No. 18 Abercrombie.. 95
W. B. Hamilton's No. 21 Abercrombie.. 155
W. B. Hamilton's No. 6 Cartwright..... 250
W. B. Hamilton's No. 7 Cartwright..... 190
W. B. Hamilton's No. 3 Ikard 100
Art & Carter's No. 6 Arnold 85
C. W. Boller's No. 2 J. J. Perkins 500
M. M. Bradley's No. 1 Carvey ..... abd
Continental Oil Co.'s No. 4 Falls County School Lands 300
Cullum and Sinclair Prairie Oil Co.'s No. 3 Falls-Scranton 202
Cullum and Sinclair Prairie Oil Co.'s No. 5 Falls-Scranton ..... abd
W. B. Hamilton's No. 11 Abercrombie . 97
W. B. Hamilton's No. 17 Abercrombie.. 250
W. B. Hamilton's No. 2 Coffield 500
W. B. Hamilton's No. 8 A. J. Ikard ... 200
W. B. Hamilton's No. 6 Winfield-Ikard 200
W. B. Hamilton's No. 8 Winfield-Ikard 125
W. B. Hamilton's No. 7 Pace 125
Ben F. Jones' No. 1 Andrews 20
Jessie Lincoln's No. 1 Ray 20
George L. Pace's No. 8 F. C. Green 150
Schultz & Weaver's No. 14 Green 200
United Producers Co.'s No. 1 Sheckell.. 35
W. B. Hamilton's No. 9 Ikard 175
W. B. Hamilton's No. 8 W. I. Pace 155
Harris et al's No. 1 Oldham ..... abd
King Royalty Co.'s No. 1 Andrews 20
Jesse Lincoln's No. 5 Ray 1000
George L. Pace's No. 5 Arnold 125
Perkins & Cullum's No. 5 Abercrombie. abd
Perkins & Cullum's No. 3 Falls County School Lands 215
Wichita Prod. Co.'s No. 1 W. T. Coffield 7

Wells completed 43
Initial production 6136
Abandoned 6

BAYLOR COUNTY

Shappell Oil Co.'s No. 1 J. A. Young.. abd

Wells completed 1
Abandoned 1

BROWN COUNTY

Charter Oil Co.'s No. 4 Reaves 30
E. O. Kothman's No. 1 R. L. Miller ... abd
Petroleum Interest, Inc.'s No. 7 Alcorn. 12
Iewis Green's No. 1 Gordeon ..... abd
Culbertson Bros.' No. 1 T. J. Stewart.. abd
W. D. Guiz's No. 1 A. Armstrong 5
R. C. McCarter's No. 1 L. W. McDonald abd
R. L. Richard's No. 1 E. L. Cason .... abd
Lewis Green's No. 1 W. M. Bull ..... abd
Lewis Green's No. 1 F. E. Gordon ..... abd
S. B. Owens' No. 9 R. Lynch 25

Wells completed 11
Initial production 72
Abandoned 7

CALLAHAN COUNTY

Hoffman & Page's No. 1 H. W. Ross... abd
A. L. Spencer's No. 1 E. L. Finley..... gas
Pary et al's No. 1 F. Scale ..... abd
Henry C. Samples' No. 1 D. L. Harp.... abd

Wells completed 4
Gas 1
Abandoned 3

COLEMAN COUNTY

Jameson-Pollard-Forester's No. 1 Cannon 10
Otto Engle's No. 1 Stewardson 15

Wells completed 2
Initial production 25

CLAY COUNTY

W. D. Maples' No. 1 Kelley ..... abd
J. E. Keller's No. 1 W. F. George..... 6
Metzner et al's No. 1 Lauella Thornberry 5

Wells completed 3
Initial production 11
Abandoned 1

EASTLAND COUNTY

Arab Gasoline Corp.'s No. 1 C. Harrell. abd

Wells completed 1
Abandoned 1

JACK COUNTY

F. H. E. Oil Co.'s No. 1 Gillespie 10
F. H. E. Oil Co.'s No. 2 Gillespie ..... abd
J. W. McMuse et al's No. 1 Brintmore. abd

Wells completed 3
Initial production 10
Abandoned 2

MONTAGUE COUNTY

Lesh & McCall's No. 4 Cunningham ... 70

Wells completed 1
Initial production 70

SHACKELFORD COUNTY

Cranfill & Reynolds' No. 9 Matthews... 15
Gilman & McMurray's No. 1 Dawson .. abd
W. F. Snebold's No. 1 Sedwick ..... abd
Hawsley & Spenser et al's No. 1 Reynolds 19
Knight's No. 3 Jeter 180
Poly Oil Corp. et al's No. 1 Spears 15
Ray Shyrock's No. 1 Hickman 5
W. F. Snebold's No. 2 Sedwick ..... abd

Wells completed 8
Initial production 225
Abandoned 3

THROCKMORTON COUNTY

A. A. Michael's No. 1 Halbert ..... abd
A. C. Walker's No. 1 C. P. Halbert .... abd
A. Michael's No. 2 McKerchan ..... abd
A. S. Michael's No. 1 McKerchan ..... abd

Wells completed 4
Abandoned 4

WICHITA COUNTY

F. C. Baldwin's No. 8 Dobie ..... abd
Coleman & Coppack et al's No. 1 May.. abd
Schlaffke & Blair's No. 8 Honaker .... abd
S. H. Walton's No. 1 Cato ..... abd
S. H. Walton's No. 1 Gulf Tank Farm.. abd

Wells completed 5
Abandoned 5

WILBARGER COUNTY

W. B. Hamilton's No. 3 Waggoner 33
Barkley & Meadows et al's No. 7 Waggoner 27
Waggoner Ref. Co.'s No. 5 Waggoner... 45
L. Webb's No. 3 Waggoner 60

Wells completed 4
Initial production 165

YOUNG COUNTY

Whitaker et al's No. 3 Hunter ..... abd
C. C. Williams' No. 2 Foster ..... abd
Sinclair Prairie Oil Co.'s No. 5 Morau.. 240
Petroleum Producers Co.'s No. 8 Belknap 33
Petroleum Producers and Bridwell's No. 1 Jeffery ..... abd
T. G. Shaw et al's No. 3 Marshall 200
Stucky Oil Co.'s No. 1 A. C. Watson... abd
Wheeler & Brashear's No. 6 Jeffery ... 150
White & Duncan's No. 7 Smith 30
Willis & Terrell's No. 1 Jones ..... abd
Worth Oil Co.'s No. 1 Garrett ..... abd
Worth Oil Co.'s No. 9 Snider 33
Charles Knox's No. 4 Manning 200
D. M. Knox's No. 1 Manning ..... abd
F. J. Albritton's No. 8 Gilmore 33
F. Ard, Jr.'s No. 5 Belknap ..... abd
Baker & Camp's No. 1 Smith 30
Brazelton Bros.' No. 12 Taack ..... abd
Calbe Oil Co.'s No. 3 A. Williams ..... abd
W. R. Cooper et al's No. 1 Terrell ..... abd
F. H. E. Oil Co.'s No. 1 Jones 10
F. H. E. Oil Co.'s No. 2 Jones 10
S. D. Glover's No. 4 Johnson 10
Iron Mountain Oil Co.'s No. 6 Swain 20
Iron Mountain Oil Co.'s No. 24 Tatum .. 20
L. A. Long's No. 2 Garvey 16
Maer & Hamilton's No. 4 Jeffery 150
Maer & Hamilton's No. 5 Jeffery 200
Baker & Camp's No. 1 Smith 25
Belknap Oil Co.'s No. 3 Belknap ..... abd
Iron Mountain Oil Co.'s No. 3 Cole .... abd
John L. Dahl's No. 1 Stewart ..... abd
Iron Mountain Oil Co.'s No. 23 Tatum... 12
Maer & Starinforth's No. 3 Jeffery 150
Pemeta Oil Co.'s No. 13 Johnson 5
Jemetz Oil Co.'s No. 14 Johnson 10
Pitzer & West's No. 4 James 100

Wells completed 37
Initial production 1687
Abandoned 14

West Texas Fields

Summary of Wells Completed

County—	Comp.	Prod.	Abd.	Gas
Ector	1	214	0	0
Fisher	4	2,503	0	0
Glasscock	5	613	0	0
Howard	3	454	0	0
Irion	2	0	2	0
Loving	1	175	0	0
Pecos	5	3,526	1	0
Taylor	1	50	0	0
Tom Green	1	0	1	0
Val Verde	1	0	1	0
Ward	11	3,421	0	0
Winkler	1	25	0	0
Total Nov.	36	10,981	5	0
Total Oct.	34	9,496	5	0
Difference	2	1,485	0	0

Rigs and Wells Drilling

County—	Rigs	S.D.	Drlg.	Ttl.
Brewster	0	0	1	1
Concho	0	0	1	1
Crane	0	0	3	3
Crockett	1	0	0	1
Dawson	0	0	1	1
Ector	2	0	5	7
Fisher	1	2	5	8
Howard	2	4	5	11
Glasscock	1	1	5	7
Irion	1	2	1	4
Jones	2	1	3	6
Loving	1	0	2	3
Pecos	6	2	12	20
Reagan	3	1	3	7
Runnels	1	1	3	5
Scurry	0	4	0	4
Terrell	0	2	0	2
Upton	0	0	1	1
Ward	8	4	13	25
Winkler	1	2	3	6
Total Nov.	30	26	67	123
Total Oct.	35	32	62	129
Difference	5	6	5	6

WELLS COMPLETED

ECTOR COUNTY

Broderick & Calvert's No. 1 Cowden ... 214

Wells completed 1
Initial production 214

FISHER COUNTY

Mid-Continent Pet. Corp.'s No. 1 Pardue 740
Condor Pet. Co.'s No. 1 State 75
Cranfill & Reynolds' No. 3 Flannigan.... 644
Cranfill & Reynolds' No. 3 Willingham. 1044

Wells completed 4
Initial production 2503

GASSCOCK COUNTY

Wooten's No. 2-A Edwards 483
Simms Oil Co.'s No. 2-A Coffee 28
Schermerhorn's No. 6 Kloh 61
Tribal Oil Co.'s No. 4-B Edwards 30
Simms Oil Co.'s No. 1-A R. C. Coffee... 11

Wells completed 5
Initial production 613

HOWARD COUNTY

Merrick & Lamb's No. 8 Chalk 300
Continental Oil Co.'s No. 8 Settles 34
Continental Oil Co.'s No. 1 Overton (old well recompleted) 120

Wells completed 3
Initial production 454

IRION COUNTY

Perry Fox's No. 1 Roark ..... abd
R. D. Covington's No. 1 Tankersley .... abd

Wells completed 2
Abandoned 2

LOVING COUNTY

Little et al's No. 1 Reagan-McElvain... 175

Wells completed 1
Initial production 175

PECOS COUNTY

D. W. Dittman et al's No. 1 Fromme... abd
Bennett et al's No. 1 Powell 4
Bryant's No. 1 Robertson 2836
Mid-Kansas Oil & Gas Co.'s No. 23 Smith-Taylor 554
Easter-McCurdy's No. 2-A Smith 132

Wells completed 5
Initial production 3526
Abandoned 1

TAYLOR COUNTY

Dunnigan et al's No. 1 A. Hunter 50

Wells completed 1
Initial production 50

TOM GREEN COUNTY

J. R. Midlock's No. 1 Frank Garlitz.... abd

Wells completed 1
Abandoned 1

VAL VERDE COUNTY

O. O. Owens' No. 1 Mills ..... abd

Wells completed 1
Abandoned 1

WARD COUNTY

California Oil Co.'s No. 1 York 427
Thompson's No. 2-B Johnson 173
Gulf Prod. Co.'s No. 35 O'Brien 478
Gulf Prod. Co.'s No. 22 Hutchins 321
S. A. Thompson's No. 1 W. D. Johnson. 9
Atlantic Oil & Prod. Co.'s No. 4 W. D. Johnson 250
Atlantic Oil & Prod. Co.'s No. 6 W. D. Johnson 250
Atlantic Oil & Prod. Co.'s No. 7 Johnson 750
Dr. Eppenauer's No. 1 University 98
Gulf Prod. Co.'s No. 21 Hutchins 211
Leidecker et al's No. 1 Archenhold 445

Wells completed 11
Initial production 3421

WINKLER COUNTY

Wahlenmaier Pet. Co.'s No. 1 Leck 25

Wells completed 1
Initial production 25

Southwest Texas Fields

Summary of Field Operations

Pool—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Acams gas	1	0	0	1	0	0	0
Byersville	1	0	1	0	0	1	1
Carolina-Tex.	1	0	0	1	0	1	1
Cedar Creek.	5	465	2	0	0	0	0
Cuevitas	2	0	1	1	2	3	5
Dunlap	0	0	0	0	0	1	1
Eagle Hill	1	60	0	0	0	2	2
East Cole	0	0	0	0	1	0	1
Eckert	1	12	0	0	0	4	4
Escobas	4	100	0	2	0	1	1
Jacobs	2	95	0	6	1	2	3
Jennings	0	0	0	0	0	2	2
King	0	0	0	0	0	1	1
Martinez	0	0	0	0	0	2	2
Moca	1	100	0	0	0	0	0
N. Dale	5	745	2	0	1	2	3
N. Gov. Wells	27	14,737	1	1	1	8	9
N. Kohler	0	0	0	0	0	1	1
New Berlin	0	0	0	0	0	1	1
Palangano	0	0	0	0	1	0	1
Pettus	0	0	0	0	0	1	1
Peters	1	0	1	0	0	0	0
S. Gov. Wells	3	520	0	0	0	0	0
S. R. C.	0	0	0	0	1	0	1
Von Ormy	1	25	0	0	1	1	2
Webster	1	0	1	0	0	1	1
W. Cole	0	0	0	0	1	0	1
Miscellaneous	25	20	23	1	21	63	84
Ttl. Nov.	82	16,879	32	7	31	98	129
Ttl. Oct.	82	27,303	35	3	32	102	134
Difference.	0	424	3	4	1	4	5

WELLS COMPLETED

CEDAR CREEK POOL—BASTROP COUNTY

Orgain, Marts & Beavens 2 240
Voss, Joe Mills 2 ..... abd
Reyes, Marts & Beavens 4 200
Reyes, Marts & Beavens 5 35
Voss, Joe Mills 1 ..... abd

NORTH DALE POOL—BASTROP COUNTY

C. L. Riddle, Marts & Beavens 3 600
Harris, Chiquita Oil Co. 3 85
Riddle, Marts & Beavens 3-A 60
Riddle, Ogden & Reed 3 ..... abd
J. W. Miears, Witherspoon Oil Co. 1 .. abd

ECKERT POOL—BEXAR COUNTY

Halbardier, Swearingen Oil Co. 14 12

VON ORMY POOL—BEXAR COUNTY

E. B. Carruth, Von Ormy Oil Co. 1 25

WEBSTER POOL—CALDWELL COUNTY

J. W. Fulps, C. J. Webster O. & G. Co. 1 abd

EAGLE HILL POOL—DUVAL COUNTY

Foster, R. D. Kelly 1 60

PETERS POOL—DUVAL COUNTY

Peters, Shasta Oil Co. 4 ..... abd

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Tuck-Johnson, Central Producers 8 ... 720
C. W. Hahl, Hamil & Hamil 8 240
C. W. Hahl, Humble O. & R. Co. 17 ... 480
C. W. Hahl, Humble O. & R. Co. 18 ... 720
C. W. Hahl, Humble O. & R. Co. 19 ... 840
C. W. Hahl, Humble O. & R. Co. 20 ... 960
C. W. Hahl, Humble O. & R. Co. 21 ...1200
Landell, Kot Oil Co. 1 ..... gas
Duval Ranch Co., Magnolia Pet. Co. 3 .. 240
Duval Ranch Co., Magnolia Pet. Co. 4 .. 125
Duval Ranch Co., Magnolia Pet. Co. 5 .. 144
Duval Ranch Co., Magnolia Pet. Co. 6 .. 300
Allen, Magnolia Pet. Co. 7 240
Allen, Magnolia Pet. Co. 8 240
C. W. Hahl, Navarro Oil Co. 11 720
C. W. Hahl, Navarro Oil Co. 23 960
C. W. Hahl, Navarro Oil Co. 24 720
C. W. Hahl, Navarro Oil Co. 26 200
C. W. Hahl, Navarro Oil Co. 30 288
C. W. Hahl, Navarro Oil Co. 31 360
C. W. Hahl, Navarro Oil Co. 32 720
Duval Ranch Co., Reynosa Oil Corp. 4-B 840
Riley, Russ Pet. Co. 2 1560
C. W. Hahl, Russ Pet. Co. 3-A ..... abd
Weiderkehr, Sun Oil Co. 7 360
Weiderkehr, Sun Oil Co. 8 720
Weiderkehr, Sun Oil Co. 10 840

SOUTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Paul White, Humble O. & R. Co. 11 .. 160
Paul White, Humble O. & R. Co. 12 .. 144
Landell, Rodney DeLange 1 216

ADAMS GAS POOL—MEDINA COUNTY

Adams, Yantis Oil Co. 1-A ..... gas

JACOBS POOL—McMULLEN COUNTY

Jacobs, Loma Oil Co. 19-A 75
Lark, H. A. Suttle 1 20

CUEVITAS POOL—STARR COUNTY

M. Guerra, Wm. McGinley 1 ..... abd
M. Guerra, Sun Oil Co. 2-C ..... gas

CAROLINA-TEXAS POOL—WEBB COUNTY

R. O. Barnsley, Washington-Texas O. & G. Co. 2 ..... gas

MOCA POOL—WEBB COUNTY

Duval Ranch Co., D. R. Semmes 4 ... 100

BYERSVILLE POOL—WILLIAMSON COUNTY

Zeischang, Taylor Prod. Co. 2 ..... abd

ESCOBAS POOL—ZAPATA COUNTY

Whitehead, Texas Co. 41 60
F. Cuellar, United Prod. Co. 2 ..... gas
Whitehead, Texas Co. 43 40
Henne-Winch, United Gas System 1 .. gas

Wells completed 57
Production 16,759
Tests abandoned 9
Gas production 48,000,000

MISCELLANEOUS COUNTIES

ATASCOSA COUNTY

Karnes City Natl. Bank, J. V. Polk 1. abd
Smith-Mowinkle, E. C. Burton 1 ..... abd

BEE COUNTY

J. E. Copeland, Holland Oil Co. 1 .... abd

CALDWELL COUNTY

Roebuck, Judge R. L. Batts 2 ..... abd

DEWITT COUNTY

Emil Buckhorn, C. B. Bunte 1 ..... abd

DUVAL COUNTY

Wood-Welder, O. W. Killam 2 ..... abd
Wood-Welder, DeSoto Oil Co. 2 20
Hunter, S. S. & H. Oil Co. 1 ..... abd

GUADALUPE COUNTY

Sorrell, W. J. Walton and H. H. Weinert 1 ..... abd

JIM HOGG COUNTY

Allen, Brooklyn Oil Co. 1 ..... abd
A. G. Lopez, Dewitt C. Dewitt 1 ..... abd

LIVE OAK COUNTY

P. J. Marbach, J. H. Durbin 1 ..... abd
Alexander, M. P. Howard 1 ..... gas
Lowe, Nixon & Foster 1 ..... abd
Hagist, Paul C. Teas 2 ..... abd

MILAM COUNTY

Thos. Graves, Ed Clark et al 1 ..... abd
R. H. Humber, R. McCormick 1 ..... abd

WEBB COUNTY

A. M. Bruni, Merle Gunby 1 ..... abd

WILLIAMSON COUNTY

Zieschang, J. L. Mauldin 1 ..... abd
Mrs. M. E. Olive, Wilson, Worley & Moore 1 ..... abd

ZAPATA COUNTY

Espiridion Flores, A. C. Savey et al 1.. abd

Wells completed 25
Production 20
Tests abandoned 23
Gas production 1,000,000

Panhandle Fields

Summary of Wells Completed

County—	Comp.	Prod.	Abd.	Gas
Carson	2	710	0	0
Gray	14	3,302	2	0
Hutchinson	1	0	0	1
Total Nov.	17	4,012	2	1
Total Oct.	21	6,861	1	1
Difference	4	2,849	1	0

Rigs and Wells Drilling

County—	Rigs	S.D.	Drig.	Ttl.
Carson	1	1	3	5
Childress	1	2	0	3
Gray	6	5	17	28
Hutchinson	1	2	7	10
Hemphill	0	1	0	1
Moore	1	2	2	5
Oldham	0	1	0	1
Roberts	0	1	0	1
Wheeler	0	2	5	7
Total Nov.	19	17	34	61
Total Oct.	13	15	31	58
Difference	3	2	3	3

WELLS COMPLETED

CARSON COUNTY

The Texas Co.'s No. 3-B Garner 200
Skelly Oil Co.'s No. 23 Schaffer 510

Wells completed 2
Initial production 710

GRAY COUNTY

Bell Oil & Gas Co.'s No. 1 Webb (old well recompleted) 700
Cambrian Oil Co.'s No. 2 Cole 400
Phillips Pet. Co.'s No. 5 Johns (old well recompleted) 15
Southern Exploration Co.'s No. 3 Vaughn 350
Denworth Oil Co.'s No. 1 Webb 75
Gerber Oil Co.'s No. 1 Stubbs ..... abd
Mid-Kansas Oil & Gas Co.'s No. 1 Webb 150
Cambrian Oil Co.'s No. 2 Barrett 160
Danciger Oil & Ref. Co.'s No. 1 Cook-Faulkner 75
Continental Oil Co.'s No. 7 Finley-Brown ..... abd
Phillips Pet. Co.'s No. 7 Jackson 757
Phillips Pet. Co.'s No. 6 Jackson 115
Skelly Oil Co.'s No. 5 Vicars 325
The Texas Co.'s No. 10-B Cook-Faulkner 180

Wells completed 14
Initial production 3302
Abandoned 2

HUTCHINSON COUNTY

D. Aubin's No. 2 fee ..... gas

Wells completed 1
Gas 1

East Texas Border Counties

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Bowie	0	0	0	1	1	2	
Cass	0	0	0	0	1	1	
Harrison	0	0	0	0	2	2	
Marion	0	0	0	0	0	2	
Panola	0	0	0	0	0	6	6
Red River	0	0	0	0	1	3	4
Shelby	3	0	3	0	0	1	1
Ttl. Nov.	3	0	3	0	2	16	18
Ttl. Oct.	0	0	0	0	4	15	19
Difference	3	0	3	0	2	1	1

WELLS COMPLETED

SHELBY COUNTY

Mary Smith Sur., Mimms, Bob Chew 1. dry
J. Bowlin Sur., Foster & Billingsly, General Minerals Co. 1 ..... dry
D. S. Height Sur., Pickering, General Minerals Co. 2 ..... dry

Gulf Coast Fields

Texas

Summary of Field Operations

Field—	Comp.	Prod.	Abd.	Gas	Rigs	Drlg.	Ttl.
Arriola	0	0	0	0	1	0	1
Barbers Hill	6	4,056	0	0	0	12	12
Batson	0	0	0	0	0	2	2
Big Creek	1	720	0	0	0	2	2
Boling	0	0	0	0	0	1	1
Buckeye	0	0	0	0	0	2	2
Blue Ridge	3	380	0	0	0	0	0
Conroe	39	58,717	1	0	11	28	39
Clay Creek	0	0	0	0	0	2	2
Damon M'nd	0	0	0	0	0	1	1
Esperson	0	0	0	0	0	2	2
Fannett	1	0	1	0	0	1	1
Garwood	0	0	0	0	0	1	1
Goose Creek.	1	0	1	0	1	2	3
Greta	24	10,009	1	0	7	24	31
High Island.	0	0	0	0	0	5	5
Hull	8	5,710	2	0	3	6	9
Humble	1	6	0	0	1	2	3
Livingston	4	1,436	1	0	0	10	10
Louise	0	0	0	0	0	10	10
Liberty	0	0	0	0	1	0	1
Manvel	3	390	1	1	2	3	5
Markham	1	600	0	0	0	0	0
McFaddin	0	0	0	0	0	5	5
Mykawa	2	0	2	0	0	1	1
Nash	0	0	0	0	0	1	1
No. Dayton.	0	0	0	0	0	1	1
Orchard	1	504	0	0	0	0	0
Orange	0	0	0	0	0	1	1
Pierce Jctn.	3	464	1	0	0	2	2
Port Neches.	1	1,500	0	0	1	2	3
Saratoga	2	24	0	0	1	1	2
Sour Lake	0	0	0	0	0	1	1
Sugarland	0	0	0	0	1	0	1
Thompson	6	6,876	0	0	1	5	6
Tomball	4	1,004	1	1	4	7	11
Miscellaneous	11	0	11	0	9	52	61
Total Nov.	121	92,396	23	2	44	196	240
Total Oct.	101	83,638	13	1	53	192	245
Difference.	20	8,758	10	1	9	4	5

South Louisiana

Black Bayou	0	0	0	0	1	0	1
Cailliou Is.	1	2,122	0	0	1	0	1
Cameron Md.	0	0	0	0	1	1	2
Choctaw	0	0	0	0	0	1	1
Edgerly	0	0	0	0	0	3	3
Hackberry E.	1	2,640	0	0	1	5	6
Gueydan	1	0	1	0	0	1	1
Iowa	1	1,095	0	0	2	5	7
Jennings	1	80	0	0	0	1	1
Lake Barre.	1	1,950	0	0	0	3	3
Lake Pelto.	0	0	0	0	0	1	1
L. Washing'n	0	0	0	0	0	1	1
Leesville	0	0	0	0	5	3	8
Lockport	0	0	0	0	2	4	6
Port Barre	0	0	0	0	3	3	6
Sorrento	0	0	0	0	0	2	2
Sweet Lake.	0	0	0	0	1	1	2
Starks	1	426	0	0	0	1	1
Sulphur	2	600	0	0	1	2	3
Vinton	3	1,440	2	0	2	3	5
White Castle	1	572	0	0	0	0	0
Miscellaneous	4	0	4	0	4	22	26
Total Nov.	17	10,925	7	0	27	63	90
Total Oct.	20	9,184	9	0	8	33	41
Difference.	3	1,741	2	0	19	30	39

Gulf Coast Total

Total Nov.	138	103,321	30	2	71	259	330
Total Oct.	121	92,822	22	1	61	225	286
Difference.	17	10,499	8	1	10	34	44

TEXAS

WELLS COMPLETED

ARRIOLA—HARDIN COUNTY

Arriola fee, Republic & Houston Oil Co. 5 1200

BARBERS HILL—CHAMBERS COUNTY

Gulf fee, Mills Bennett Prod. Co. 3-C... 1376
Barber, Mills Bennett Prod. Co. 2-B ... 662
Wilburn, Texas Co. 7 235
Wilburn, Sun Oil Co. 11 446
Wilburn, Sun Oil Co. 14 87
Barber, Texas Gulf Prod. Co. 2-B 1250

Wells completed 6
Production 4956

BIG CREEK—FORT BEND COUNTY

Davis, Edwards Drlg. Co. 1 720

BLUE RIDGE—FORT BEND COUNTY

Blakely, San Jacinto Oil Co. 2 350
Blakely, Sheffield, Telshaw et al 2 30

Wells completed 2
Production 380

CONROE—MONTGOMERY COUNTY

South Tex. Dev. Co., Alpha Pet. Co. 5-C 288
Smith & Ratcliff, Bishop Corp. 3 1896
Gilbert, Brown & Wheeler 3 600
Kirby-Bertrand, Feltex Oil Co. 3 100
Keystone Mills, Gulf Coast Drlg. & Prod. Co. 13-B 960
Keystone Mills, Gulf Coast Drlg. & Prod. Co. 14-B 540
Cartwright, Humble O. & R. Co. 3-B... 1896
L. McShan, Harrison & Abercrombie Oil Co. 1 ..... abd
P. Collins, Humble O. & R. Co. 3 1704
Collins, Humble O. & R. Co. 4 1440
D. P. Griffin, Humble O. & R. Co. 4 .. 1068
Hirsch, Humble O. & R. Co. 6 1468
Madeley, Humble O. & R. Co. 19 1824
Madeley, Humble O. & R. Co. 20 1992
L. B. McComb, Humble O. & R. Co. 4.. 576
Moore, Humble O. & R. Co. 21 1848
Moore, Humble O. & R. Co. 22 2008
Moore, Humble O. & R. Co. 31 1848
South Tex. Dev. Co., Humble O. & R. Co. 49-A 2040
South Tex. Dev. Co., Humble O. & R. Co. 50-A 1992
South Tex. Dev. Co., Humble O. & R. Co. 52-A 2252
South Tex. Dev. Co., Humble O. & R. Co. 53-A 1608
South Tex. Dev. Co., Humble O. & R. Co. 58-A 1776
South Tex. Dev. Co., Humble O. & R. Co. 2-D 1080
South Tex. Dev. Co., Humble O. & R. Co. 3-D 1656
Wilson, Humble O. & R. Co. 1 1872
Krohn, Strake Pet., Inc. 1 1920
Krohn, Strake Pet., Inc. 3..... 2490
Keystone Mills, Sun Oil Co. 6 1752
Keystone Mills, Sun Oil Co. 7 545
Keystone Mills, Sun Oil Co. 9 1584
Foster, Sun Oil Co. 21 1848
Foster, Sun Oil Co. 25 1400
Dean, Tide Water Oil Co. 13 2110
Dean, Tide Water Oil Co. 15 1872
American Nat. Bank, Tide Water Oil Co. 1 816
Lewis, Tide Water Oil Co. 27 2110
Lewis, Tide Water Oil Co. 28 2184
Keystone Mills, Texas Unity Oil Co. 2 ..1464

Wells completed 39
Production 58,717
Abandoned 1

FANNETT—JEFFERSON COUNTY

Jackson, Black Gold Oil Co. 1 ..... abd

GOOSE CREEK—HARRIS COUNTY

Jones, Clay & Lanier 1 ..... abd

GRETA—REFUGIO COUNTY

J. J. O'Brien, Alamo-Atlantic O. P. Co. 2 74
J. J. O'Brien, Alamo-Atlantic O. P. Co. 3 192
J. M. O'Brien, Atlantic O. P. Co. 2-C.. abd
J. M. O'Brien, Atlantic O. P. Co. 3-C.. 247
J. M. O'Brien, Atlantic O. P. Co. 4-C.. 374
J. M. O'Brien, Alamo-Atlantic O. P. Co. 2-E 110
J. M. O'Brien, Alamo-Atlantic O. P. Co. 3-E 110
J. M. O'Brien, Alamo-Atlantic O. P. Co. 5-E 250
J. M. O'Brien, Circle W Oil Co. 7 500
J. M. O'Brien, Circle W Oil Co. 8 1080
J. J. O'Brien, Dash Prod. Co. 1-C 336
J. J. O'Brien, Dash Prod. Co. 1-E 410
J. M. O'Brien, Dash Prod. Co. 3 200
J. M. O'Brien, Greta Oil Co. 1-C 1500
J. M. O'Brien, Greta Oil Co. 2-C 350
J. M. O'Brien, Greta Oil Co. 5-B 300
J. M. O'Brien, E. M. Jones 2-A 400
O'Connor, Nesral Oil Co. 5 873
J. M. O'Brien, Southwest Oil Co. 3-B ... 504
J. M. O'Brien, Southwest Oil Co. 1-D .. 360
J. M. O'Brien, Texas Gulf Prod. Co. 2-A 1200
Fox, United Prod. Co. 7 149
Fox, United Prod. Co. 8 200
Fox, United Prod. Co. 9 299

Wells completed 24
Production 10,009
Abandoned 1

HULL—LIBERTY COUNTY

Ward, Elipse Oil Co. 1 51
Flynn, W. B. Flynn ..... abd
Hannah, Texas Co. 8 ..... abd
Hooks-Guedry, Humble O. & R. Co. 27.. 720
Barrows, Liberty Hull Oil Co. 1 1680
Phoenix Dev. Co., Miramer Oil Corp. 5. 1560
Phoenix Dev. Co., Miramer Oil Corp. 1-B 163
Hooks-Sterling, Yount Lee Oil Co. 3 ... 1536

Wells completed 8
Production 5710
Abandoned 2

HUMBLE—HARRIS COUNTY

Herman, Martin Glass 2 6

LIVINGSTON—POLK COUNTY

Grandbury, Humble O. & R. Co. 1 530
Grandbury, Humble O. & R. Co. 2 480
Cooper, Polk County Oil Co. 1 426
Davis-Holmes, Shell Pet. Corp. 3 ..... abd

Wells completed 4
Production 1436
Abandoned 1

MANVEL—BRAZORIA COUNTY

Davis, Texas Co. 2 ..... abd
Belcher, Texas Co. 3-B ..... gas
Belcher, Texas Co. 5 390

Wells completed 3
Production 390
Gas 1
Gas production 1,900,000

MARKHAM—MATAGORDA COUNTY

Myers, Rycade Oil Corp. & Thompson 1 600

MYKAWA—HARRIS COUNTY

Siadous, Crown-Framer Oil Co. 1 ..... abd
Minnetex, Crown-Framer Oil Co. 4 ..... abd

ORCHARD—FORT BEND COUNTY

Moore, Gulf Prod. Co. 37 504

PIERCE JUNCTION—HARRIS COUNTY

Whitehead, Moody Corp. 2-A 264
Whitehead, Moody Corp. 4-A ..... abd
Bullock, White & Ward 1 200

Wells completed 3
Production 464
Abandoned 1

PORT NECHES—ORANGE COUNTY

Polk, Texas Co. 1-B 1500

SARATOGA—HARDIN COUNTY

Jordit, Rio Bravo Oil Co. 102 14
Jordit, Rio Bravo Oil Co. 103 19

Wells completed 2
Production 24

THOMPSON—FORT BEND COUNTY

F. I. Booth, Humble O. & R. Co. and Gulf Prod. Co. 20-A 1344
M. Gubbles, Humble O. & R. Co. 7 ...1440
G. Gubbles, Humble O. & R. Co. 9 ...1296
Lockwood & Sharp, Humble O. & R. Co. and Gulf Prod. Co. 16-B 511
Wolters, Texas Co. 5 2160
Gehr, Naylor et al 1 125

Wells completed 6
Production 4876

TOMBALL—HARRIS COUNTY

Bloecher, Humble O. & R. Co. 2 ..... abd
Petrick, Humble O. & R. et al 1 500
Quilter, Humble O. & R. Co. 1 504

Irvine, Magnolia Pet. Co. and Humble O. & R. Co. 1 ..... gas

Wells completed 4
Production 1004
Abandoned 1
Gas 1

MISCELLANEOUS TEXAS

BRAZORIA COUNTY
Johnson, Walker, Borden League, Reynolds, E. A. Anderson 1 ..... abd

CHAMBERS COUNTY
John S. Roberts Sur., Gau, Mills & Jones et al 1 ..... abd

COLORADO COUNTY
H.T.&B. Sur. No. 9, Miller, Columbus Dev. Co. 1 ..... abd

FAYETTE COUNTY
J. Petty Sur., Turner, Columbus Dev. Co. 1 ..... abd

FORT BEND COUNTY
T. Gleason Sur., M. T. Wood, Fresno Oil Co. 1 ..... abd

GRIMES COUNTY
F. G. Seaton Sur., Templeman, Humble O. & R. Co. 1 ..... abd

HARRIS COUNTY
H.T.&B. Sur., Abst. 391, Kenning, Burns, Ogg & Houston 1 ..... abd

MONTGOMERY COUNTY
Mary Guber Sur., Cavel, Gohlson Bros. 1 abd

POLK COUNTY
G. Thomas Sur., Kirby & West, Dick Schwab 1 ..... abd

VICTORIA COUNTY
R. Manchola Sur., Zimmer, Stoneleigh O. & G. Co. 1 ..... abd

WHARTON COUNTY
H.T.&C. Sur., Sect. 8, Ridgeway, Smith, McDonnald & Shell Pet. Corp. 1 .... abd

SOUTH LOUISIANA

CAILLIOU ISLAND—TERREBONNE PARISH
State, Cailliou Island, Texas Co. 2122

GUEYDAN—VERMILLION PARISH
Grady, Humble, Pure Oil Co. 1 ..... abd

EAST HACKBERRY—CAMERON PARISH
Erwin, Gulf Ref. Co. 12 2640

IOWA—JEFFERSON PARISH
Fontenot, Barnsdall Oil Co. 1 1095

JENNINGS—ACADIA PARISH
Houssierre-Latrielle, S. Rhodes 12 80
LAKE BARRE—TERREBONNE PARISH
Lake Barre-L.L.&E., Texas Co. 9 1950

STARKS—CALCASIEU PARISH
Lutcher-Moore, Gulf Ref. Co. 33 426

SULPHUR—CALCASIEU PARISH
Fee, Union Sulphur Co. 779 300
Fee, Union Sulphur Co. 781 300

Wells completed 2
Production 600

VINTON—CALCASIEU PARISH
Vincent, Vinton Pet. Co. 23 ..... abd
Wilson, Wilson Broach 4 ..... abd
Strip, Wilson Broach 11 1440

Wells completed 3
Production 1440
Abandoned 2

WHITE CASTLE—IBERVILLE PARISH
Wilburn, Shell Pet. Corp. 7 572

MISCELLANEOUS LOUISIANA

ASSUMPTION PARISH
Sect. 38-14s-14e, Wm. Cypress Co., Barnsdall Oil Co. 1 ..... abd

EVANGELINE PARISH
Sect. 47-3s-2e, Vidrine, J. E. Ledau 2 .. abd

JEFFERSON DAVIS PARISH
Sect. 32-10s-4w, Clarphy Lognion, B. D. Fenly 1 ..... abd

VERNON PARISH
Sect. 2-1n-11e, Delta Land & Timber Co., E. Dawson 1 ..... abd

Louisiana Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas*	Rgs.	Dlg.	Ttl.
Beauregard	0	0	0	0	0	1	1
Bienville	0	0	0	0	1	1	2
Bossier	4	0	2	2	1	5	6
Caddo	5	25	4	0	3	9	12
Caldwell	0	0	0	0	1	2	3
Catahoula	1	0	1	0	1	0	1
Claiborne	1	0	1	0	2	1	3
DeSoto	4	0	4	0	5	11	16
E. Carroll	0	0	0	0	1	0	1
Franklin	0	0	0	0	1	0	1
Grant	0	0	0	0	0	2	2
Jackson	0	0	0	0	0	1	1
LaSalle	1	50	0	0	0	0	0
Morehouse	1	0	1	0	0	1	1
Natchitoches	1	0	1	0	2	3	5
Ouachita	2	0	0	2	5	6	11
Rapides	0	0	0	0	4	1	5
Red River	0	0	0	0	1	2	3
Richland	1	0	0	1	0	0	0
Sabine	16	2,669	4	0	27	57	84
Tensas	0	0	0	0	0	1	1
Union	0	0	0	0	1	0	1
Vernon	1	0	1	0	0	0	0
Webster	1	0	1	0	0	1	1
Winn	0	0	0	0	0	1	1
Ttl. Nov.	39	2,744	20	5	56	106	162
Ttl. Oct.	32	503	16	7	64	95	159
Difference	7	2,241	4	2	8	11	3

*Gas production: Bossier, 24,310,000 feet; Ouachita, 6,000,000 feet; Richland, 500,000 feet; total 30,810,000 feet.

WELLS COMPLETED

BOSSIER PARISH
4-15-13 Ray Oden, J. A. King 1 .... dry
22-19-11 Smith, H. I. Morgan 2 ..... dry
18-19-11 Fee, R. A. Sherrill 1 ..... gas
14-17-13 Skannall, United Public Serv. Co. 3 ..... gas

Gas production 24,310,000

CADDO PARISH
2-20-16 Agurs, M. H. Brogden 1 ..... dry
34-17-16 Taylor, Calatex O. & G. 1 ... dry
17-16-16 Gill & Lipscomb, Tom Collins Pet Co. 1 ..... abd
33-16-16 Eady est., Dillingham et al 1. dry
28-16-13 Story & Phillips, J. B. Hutchinson 1 ..... dry
4-20-15 Muslow, M. Rodgers 1 25

CATAHOULA PARISH
22-10-7e Millsaps, Geo. Greer et al 1 .. dry

CLAIBORNE PARISH
5-19-5 Tony Durrett, United Gas Public Service Co. 2 ..... dry

DE SOTO PARISH
1-13-15 Moore, Baggett et al 1 ..... abd
23-12-13 Porter est., N. B. Porter 1 ... dry
5-12-14 Wagner, E. M. Self 1 ..... dry
30-12-12 Wollums, G. C. Smith 1 ..... dry
31-14-15 Smith, Winters et al 1 ..... dry

LA SALLE PARISH
2-9-1e Urania Lbr. Co., H. L. Hunt, Inc. 7 50

MOREHOUSE PARISH
12-21-7 Baines & Sullivan, H. D. Sampson 1 ..... dry

NATCHITOCHES PARISH
61-6n-5w Cane River Valley, Alexander & Rasmusser 1 ..... abd
25-10-6 Stephens, Tullos Oil Co. 1 .... dry

OUACHITA PARISH
24-19-4e Slaughter, Century Carbon Co. 4 gas
44-20-4e Cole, Hope Prod. Co. 2 ..... gas

Gas production 6,000,000

RICHLAND PARISH
4-15-6 Broughten, J. C. Prine 1 ..... gas

Gas production 500,000

SABINE PARISH
30-8-11 Trammell, Baird Bros. 1 50
10-9-13 Litton, W. T. Boyd 1 80
2-7-12 Bowman-Hicks, Creichton Oil 1 75
29-8-11 Billbray, Crescent Drlg. Co. 2 . 500
20-9-13 Cranford, DeGaneres & McConnell 2 20
24-7-11 Williams, Inv. Prod. Co. 1 15
32-8-11 Greer, Geo. L. Pace 2 100
3-7-11 La. Long Leaf Lbr. Co., Pelican Nat. Gas Co. 21 ..... dry
31-8-11 La. Long Leaf Lbr. Co., Pelican Nat. Gas Co. 25 400
7-7-11 Sabine Lbr. Co., Pelican Nat. Co. 10 500
15-7-11 Raines, Peoples O. & G. Co. 1.. dry
10-9-13 Harris, J. E. Sedberry 1 500
4-5-12 Lucius, Ben F. Smith 1 ..... dry
22-9-13 Latham, Wm. Stewart 1 50
7-7-10 Byrd, C. H. Tuttle 4 ..... dry
23-9-13 Graham, Windsor Oil Co. 1-A .. 379

VERNON PARISH
2-1n-11 Delta Land Co., Vernon Oil 1.. dry

WEBSTER PARISH
27-18-9 Burson, J. P. Evans 1 ..... dry

Arkansas Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Arkansas	0	0	0	0	0	1	1
Columbia	0	0	0	0	0	3	3
Conway	0	0	0	0	0	1	1
Hempstead	0	0	0	0	0	1	1
Jefferson	0	0	0	0	1	1	2
Lafayette	0	0	0	0	0	1	1
Little River	0	0	0	0	0	2	2
Lonoke	0	0	0	0	0	1	1
Miller	0	0	0	0	2	12	14
Nevada	0	0	0	0	1	2	3
Ouachita	1	0	1	0	0	4	4
Poinsett	0	0	0	0	0	1	1
Union	0	0	0	0	2	7	9
Woodruff	0	0	0	0	0	1	1
Yell	0	0	0	0	0	1	1
Ttl. Nov.	1	0	1	0	6	39	45
Ttl. Oct.	3	0	3	0	14	27	41
Difference	2	0	2	0	8	12	4

WELLS COMPLETED

DE SHEA COUNTY
3-8-1e Martin, T. J. O'Hara 1 ..... abd

HEMPSTEAD COUNTY
21-9-25 Leslie, Ky. O. & G. Co. 1 .... abd

OUACHITA COUNTY
28-15-15 Snow Hill Church, J. D. Reynolds 1 15
33-18-14 Ogden, E. R. Henderson 1 .. dry

Mississippi Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Hinds	0	0	0	0	0	6	6
Lamar	0	0	0	0	1	1	2
Madison	0	0	0	0	0	1	1
Newton	0	0	0	0	0	1	1
Pearl River	0	0	0	0	1	0	1
Pike	0	0	0	0	1	0	1
Rankin	1	0	0	0	1	3	4
Scott	0	0	0	0	0	1	1
Simpson	0	0	0	0	0	1	1
Tallahatchie	0	0	0	0	0	1	1
Walthall	0	0	0	0	1	0	1
Warren	0	0	0	0	0	1	1
Webster	1	0	1	0	0	0	0
Wilkinson	0	0	0	0	0	1	1
Winston	1	0	1	0	0	0	0
Ttl. Nov.	3	0	2	1	5	17	22
Ttl. Oct.	8	0	5	3	10	15	25
Difference	5	0	3	2	5	2	3

MISSISSIPPI

RANKIN COUNTY
31-6n-2e Fee, Love Pet. Co. 1 ..... gas

Gas production 42,000,000

WINSTON COUNTY
12-13-11 Watkins, Hedrick-Camp Drlg. Co. 1 ..... dry

Alabama Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Baldwin	0	0	0	0	0	1	1
Lamar	0	0	0	0	0	1	1
Washington	0	0	0	0	0	1	1
Ttl. Nov.	0	0	0	0	0	3	3
Ttl. Oct.	1	0	1	0	1	2	3
Difference	1	0	1	0	1	1	0

Rocky Mountain Area

NEW MEXICO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Eddy	0	0	0	0	0	10	10
Lea	2	1,528	0	0	1	2	3
McKinley	0	0	0	0	0	7	7
San Juan	1	50	0	0	0	14	14
San Miguel	0	0	0	0	0	4	4
Santa Fe	0	0	0	0	0	3	3
Valencia	0	0	0	0	0	3	3
Miscellaneous	0	0	0	0	1	12	13
Total Nov.	3	1,578	0	0	2	55	57
Total Oct.	6	632	1	0	3	54	57
Difference	3	946	1	0	1	1	0

WELLS COMPLETED

2-29-19 Continental Oil Co. 32 50
24-26-36 McCallister, Continental Oil Co. 2-A-24 564
28-18-38 Grimes, Shell Pet. Corp. 3 ... 964

Wells completed 3
Production 1,578

COLORADO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Archuleta	0	0	0	0	1	4	5
Boulder	0	0	0	0	0	4	4
Elbert	0	0	0	0	0	3	3
Fremont	1	1	0	0	0	1	1
Jackson	0	0	0	0	0	4	4
Larimer	0	0	0	0	0	4	4
Las Animas	0	0	0	0	0	2	2
Moffat	4	1,100	1	2	1	3	4
Morgan	0	0	0	0	1	1	2
Routt	0	0	0	0	1	1	2
Weld	0	0	0	0	0	3	3
Miscellaneous	0	0	6	0	0	16	16
Total Nov.	5	1,101	1	2	4	46	50
Total Oct.	1	0	1	0	4	52	56
Difference	4	1,101	0	2	0	6	6

WELLS COMPLETED

9-6n-91 Eberle, Rocky Mountain Gas Co. 1 ..... gas
30-12-100 Wheeler, Mountain Fuel Supply Co. 1 ..... gas
23-4n-92 Iles, Texas Co. 1 1100
16-4n-101 State, William Myers et al 1. dry
32-18-69 Lucas, Cherry Creek Placer 1. 1

Wells completed 5
Production 1101
Gas 7,100,000
Dry and abandoned 1

WYOMING

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Big Horn	0	0	0	0	1	6	7
Carbon	1	0	0	1	1	6	7
Converse	1	8	0	0	0	3	3
Crook	0	0	0	0	0	5	5
Fremont	0	0	0	0	0	3	3
Hot Springs	0	0	0	0	0	3	3
Natrona	0	0	0	0	2	6	8
Niobrara	0	0	0	0	0	3	3
Park	1	500	0	0	0	1	1
Sweetwater	1	0	0	1	1	3	4
Sublet	0	0	0	0	0	3	3
Uinta	0	0	0	0	0	6	6
Weston	2	50	1	0	2	4	6
Miscellaneous	0	0	0	0	0	8	8
Total Nov.	6	558	1	2	7	60	67
Total Oct.	12	665	5	2	7	66	73
Difference	6	7	4	0	0	6	6

WELLS COMPLETED

14-46-64 Chadron-Osage Oil Co. 21 ... 50
21-46-63 Albert Jones 5 ..... dry
23-17-104 Wyoming-California Pet. Co. 1 ..... gas
24-58-98 Government, V. M. Kirk 1 ... 500
4-33-76 Glenrock Sheep, Continental Oil 30 3
34-23-79 Haslett, Ohio Oil Co. 2 ..... gas

Wells completed 6
Production 558
Gas 55,000,000
Dry and abandoned 1

UTAH

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Total Nov.	0	0	0	0	1	17	18
Total Oct.	0	0	0	0	1	17	18
Difference	0	0	0	0	0	0	0

MONTANA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Carbon	0	0	0	0	0	4	4
Glacier	4	220	0	2	7	20	27
Judith Basin	1	0	1	0	0	0	0
Liberty	0	0	0	0	0	4	4
Musselshell	1	0	1	0	1	0	1
Petroleum	1	0	1	0	0	2	2
Teton	0	0	0	0	0	3	3
Toole	5	50	1	2	0	4	4
Miscellaneous	0	0	0	0	0	9	9
Total Nov.	12	270	4	4	8	46	54
Total Oct.	7	585	2	0	11	46	57
Difference	5	315	2	4	3	0	3

WELLS COMPLETED

10-34-2w DeGroat, Mickener 3 ..... dry
27-35-2w Smoke, California Co. 16 10
11-35-3w Haughen, Rocky Ridge Syndicate 1 40
13-34-1w Burwash, A. H. Blase 2 ..... gas
25-35-3w Stewart, KeSun Oil Co. 5 ... gas
8-15-29 Post, Minnesota-Flatwillow Oil 1 ..... dry
20-11-23 Hawkeye Oil Co. 1 ..... dry
21-14-15 Payne, Fletcher E. Hunt 1 .. dry
4-35-5w Miller, Montana Power Gas Co. 1 ..... gas
2-35-5w Teterud, Montana Power Gas Co. 1 ..... gas
26-35-6w Anderson, Nyhagen-Bell 1 ... 20
12-34-6w Larson, R. C. Tarrant 1 200

Wells completed 12
Production 270
Gas 15,450,000
Dry and abandoned 4

Michigan Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Midland	31	42,681	3	0	28	46	74
Isabella	10	235	4	0	31	19	50
Clare	0	0	0	0	4	0	4
Oceana	4	325	0	0	8	9	17
Lake	0	0	0	0	0	2	2
Iosco	0	0	0	0	1	0	1
Gratiot	1	0	1	0	3	1	4
Cass	0	0	0	0	3	1	4
Kent	0	0	0	0	1	2	3
Emmett	0	0	0	0	0	1	1
Leelanau	0	0	0	0	1	0	1
Saginaw	0	0	0	0	4	1	5
Montmorency	0	0	0	0	3	0	3
Sanilac	1	0	1	0	3	0	3
Newaygo	0	0	0	0	0	2	2
Shiawassee	0	0	0	0	1	2	4
Allegan	0	0	0	0	1	2	3
Livingston	0	0	0	0	1	2	3
Oscola	0	0	0	0	2	0	2
Alpena	0	0	0	0	0	1	1
Cheboygan	0	0	0	0	0	1	1
Oakland	0	0	0	0	0	1	1
Macomb	0	0	0	0	1	1	2
Gennessee	0	0	0	0	1	0	1
Mecosta	1	0	0	1	1	0	1
Antrim	0	0	0	0	1	0	1
Monroe	0	0	0	0	0	1	1
St. Clair	2	0	2	0	2	0	2
Muskegon	1	0	1	0	8	7	15
Ogemaw	1	250	0	0	3	8	11
Montcalm	0	0	0	0	0	2	2
Lapeer	0	0	0	0	0	1	1
Gladwin	0	0	0	0	1	0	1
Ttl. Nov.	52	43,491	12	1	113	114	227
Ttl. Oct.	37	34,261	4	3	110	128	238
Difference	15	9,230	8	2	3	14	11

WELLS COMPLETED

MIDLAND COUNTY
Greendale—Bond Hrs., Mich. Prod. & Ref. Co. 1 300
A. Bernard, Brannager, Giffert & Reeser 1 300
H. Woern, J. W. Leonard, Jr. 1 100
Porter—S. M. Densmore, McClanahan Oil 1 ..... dry
C. E. Baxter, Stork Oil Co. 2 130
J. C. Hill, Stork Oil Co. 3 60
W. and S. Carter, Wm. J. Wilson, tr. 2 200
J. L. Miller est., Sun Oil Co. 2 150
J. L. Miller est., Sun Oil Co. 3 4000
Elic Bushre, C. A. Smith 2 125
J. W. Campbell, Theodore Oil 3 7000
W. J. Diebel, Stewart-Gordon Co. 1 .. 280
W. J. Diebel, Stewart-Gordon Co. 2 .. 860
W. J. Diebel, Stewart-Gordon Co. 3 .. 96
G. R. Hathaway, Geo. C. Hanners 2.. 860
Anna O. Ryan, Stewart-Gordon Co. 1. dry
H. Neitzke, Davis Oil Co. 3 600
Sam Walley, Strange O. & G. 3 900
Chas. Hill, Pure Oil Co. 3 100
A. C. Wyant, Pure Oil Co. 3 2160
M. C. Naramore, Pure Oil Co. 6 300
W. W. Hoyt, Pure Oil Co. 1 700
W. W. Hoyt, Pure Oil Co. 2 18000
Bond-Risley, Pure Oil Co. 1 3000
F. W. Howard, Pure Oil Co. 3 4000
Ira E. Bond, Pure Oil Co. 1-A 140
Ira E. Bond, Pure Oil Co. 2-A 140
F. E. Rosa, Pure Oil Co. 1 4000
Lee—F. H. Taulker, Columbia-Gordon 3 50
Atha, W. Hunter Atha 1 130
J. Tohm, Strange & Fortney 1 ..... dry

Wells completed 31
Production 42,681
Dry 3

ISABELLA COUNTY
Vernon—C. Thayer, Ide O. & G. Corp. 1 dry
Maircelles & Co., J. V. Wicklund 1 .. dry
Thayer, Mammoth Pet. Corp. 3-A 10
McDonald-Bell, Gordon Oil 1 ..... dry
W. J. Mahar, Michigan O. & G. 1 .. dry
Maricelles, Mammoth Pet. Corp. 3 .. 55
Jos. Verretta, Mammoth Pet. Corp. 2 50
Jos. Verretta, Mammoth Pet. Corp. 3 60
Geo. House, Mellon-Pollock Oil 2 .. 50
Leo Smock, Mellon-Pollock Oil 1 10

Wells completed 10
Production 235
Dry 4

OCEANA COUNTY
Hart—E. Mitchell, Jas. E. Flanigan 5 100
A. Copenhaver, H. C. Nelson 1 75
A. Doolittle, H. C. Nelson 2 75
A. Doolittle, H. C. Nelson 3 75

Wells completed 4
Production 325

GRATIOT COUNTY
Emerson—Arthur Techam, Depar Oil 1 dry

SANILAC COUNTY
Argyle—Wm. Herdell, E. Brown Oil Dev. Co. 1 ..... dry

MECOSTA COUNTY
Austin—Robert S. Fish, Jas. M. Taggart & Co. 3 ..... gas

ST. CLAIR COUNTY
Cylde—Eugene D. Atkins, John Blakes, tr., 1 ..... dry
Fort Gratiot—John Richter, Fred W. Craft 1 ..... dry

Wells completed 2
Dry 2

MUSKEGON COUNTY
Ravenna—N. Lieffers, Muskegon Oil 1. dry

OGEMAW COUNTY
West Branch—Stella Wilcox, Alvin Weber, tr., 2 250

Eastern Fields

Summary of Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Bradford	82	77½	0	0
Allegany	19	176	0	0
Middle Field	9	14	0	0
Venango-Clarion	3	5	0	0
Butler-Armstrong	2	2	0	0
S.W. Pennsylvania	6	38	0	3
Southeast Ohio	21	132	10	1
West Virginia	24	303	5	10
Total Nov.	166	748½	15	14
Total Oct.	281	4,308	17	36
Difference	115	3,559½	2	22

Summary of Work Under Way

Field—	Rigs	Drlg.	Ttl.
Bradford	8	57	65
Allegany	4	14	18
Middle Field	5	5	5
Venango-Clarion	1	6	7
Butler-Armstrong	1	7	8
Southwest Pennsylvania	5	13	18
Southeast Ohio	7	22	29
West Virginia	24	74	98
Total Nov.	50	198	248
Total Oct.	71	214	285
Difference	21	16	37

WELLS COMPLETED

BRADFORD

Bingham 392, Lawton, Boyle & Raymond 2
Bingham 389, D. W. Daly 2
Rew, Bovaird & Hamlin 2
Fee, DeVore Oil 3
Freeman, Stuckel & Freeman 3
Corwin, Cora M. Simon 5
Corwin, Corwin & Gallagher 3
Fee, Lincoln & Brink 1½
Fee, Lindwood Oil 2
Fee, Van Vechten & Son 4
Fee, Margaret Cait, tr. 2
Fee, M. Hungiville 2
Binuger, Parker Farm Oil 2
Smith, Hillside Oil 3
Tracy, Wilson & Fitzgibbons 3
Bingham 300, McKalip, Shuman & Love 5
Cotton, Glenn McCool et al drlg
Fee, DeVare Oil drlg
Corwin, Corwin & Gallagher drlg
Fee, Van Vechten & Son drlg
Fee, M. Cait, tr. drlg
Fee, H. M. Jack et al drlg
Fee, Smith Oil Corp. drlg
Fee, Smith Oil Corp. drlg
Fee, Dallas Oil drlg
Bingham 212, Esther Oil, Inc. rig
Bingham, E. R. and D. W. Barry et at. drlg
Fee, Forest Oil Corp. (4 wells)...pressure
Fee, Forest Oil Corp. (17 wells) 8
Fee, Forest Pet. Corp. (9 wells) 3
Forest Dev. Corp. (1 well) 1
Niagara Oil Corp. (25 wells) 21
Total rigs building (7) rig
Total wells drilling (47) drlg

Completions	82
Production	77½
Pressure	4

ALLEGANY

Rounds, J. W. Kaufman est. 5
Loop est., N. V. V. Franchot 20
Fee, V. G. Smith 3
Stewart, Sepany Oil 5
Harbel & Meridan, N. V. V. Franchot.. 50
Fee, Ryder Scott Co. 15
Fee, C. M. and F. J. Lippert 2
Fee, N. V. V. Franchot 10
Harbel & Meridan, N. V. V. Franchot.. 50
Fee, C. M. and F. J. Lippert 2
Herrick & Shaner, N. V. V. Franchot .. 5
Fee, Hamilton & Matthews 2
Fee, Hamilton & Matthews 3
Harmon & Ramsbottom, G. A. Ramsbottom 3
Forest Oil Corp. (5) 1
Fee, N. V. V. Franchot drlg
Harbel & Meridan, N. V. V. Franchot .. drlg
Fee, Miller Bros. et al drlg
Gaeng & Fenton, Freeman et al drlg
Gaeng & Fenton, Freeman et al drlg
Fee, Ryder Scott Co. drlg
Harmon & Ramsbottom, Ramsbottom.. drlg
Kinley Oil Co., Pure Penn Oil, Inc. .. drlg
Rounds, N. V. V. Franchot rig
Weston, Rice, Welch & Touhy rig
Fee, Mix Creek Oil drlg
Fee, Hoffman est. drlg
Fee, Curtis & Dunlavey drlg
Fee, Grow Farm Oil fsh
Rigs on Bradford Transit (2) rig
Drilling on B. T. (3) drlg

Completions	19
Production	176
Pressure	1

MIDDLE FIELD

Middaugh, A. L. and M. L. Lilly 2
Duke & Taggart, Schopperle Bros. 1
Kapp, T. H. Kervin, Jr. 1
Moody, C. D. Henline 2
Gridiron, Gridiron Oil 1
Baldwin, F. E. Baldwin 2
Baldwin, F. E. Baldwin 2
Fee, Sunny Oil 2
Goodrich, W. A. Ditto & Son 1
Middaugh, A. L. and M. L. Lilly drlg
Duke & Taggart, Schopperle Bros. drlg
Kapp, T. H. Kervin, Jr. drlg
Moody, C. D. Henline drlg
Moody, C. D. Henline drlg

Completions	9
Production	14

VENANGO-CLARION

C. S. Wright, McComb & Boyd 2
L. F. Perrine, Perrine 1
Jonkey, Burchfield & Titusville Trust.. drlg
J. F. Moran, D. O. and G. R. Moran .. drlg
Lester Henry, Dr. I. Dana Kahle 1
Lester Henry, Dr. I. Dana Kahle drlg
Jerusalem, O. N. Culbertson drlg
J. P. Carson, Clarion Co. Natl. Bank .. rig
J. R. Switzer, Campbell, Switzer et al. drlg
Lee, G. A. Thorn et al drlg

Completions	3
Production	5

BUTLER-ARMSTRONG

Adam Ripper, W. M. Rumby drlg
Schubert, Schubert & Co. 1
R. H. Smith, W. Ferguson et al drlg
Smith, Jerome J. Smith rig
John Lane, Ritzer Bros. et al drlg
S. D. Wise, Heeter Bros. drlg
Phillip Burr, Fehl & Co. drlg
Turner, Pipher & Dunkle 1
A. Affolter, Consolidated O. & G. drlg
D. P. Kelly, Kelly Bros. drlg

Completions	2
Production	2

SOUTHWEST PENNSYLVANIA

WELLS COMPLETED

ALLEGHENY COUNTY

Wally, W. C. Wally 2 gas

GREENE COUNTY

Sicklesmith, J. L. Garard & Co. 3 3
Baldwin, Richhill O. & G. Co. 2 gas
Vance, Meadow Run O. & G. Co. 2 10

WASHINGTON COUNTY

McKennan, E. H. & J. B. Tague 7 25
Daniels, Naomi O. & G. Co. 1 gas

SOUTHEAST OHIO

WELLS COMPLETED

ASHLAND COUNTY

Aber & Alexander, C. H. Meltzer et al 7 5

ATHENS COUNTY

Young, Henderson Oil Co. 1 dry

COSHOCTON COUNTY

McKee, Kundtz-Hulse, Inc., et al 3 .. 25

HARRISON COUNTY

Adams, C. W. Adams et al 1 dry

LICKING COUNTY

Claypool No. 2, Edw. H. Everett Co. 5. 40
Kreager, Wehrle Co. 1 20

MEDINA COUNTY

Miller, E. R. Edson & Son Co. 37 2
Weaver, D. A. Lake 9 dry
Weaver, D. A. Lake 10 dry
Brown, Curtis & Eaken 10 dry
Wideman, E. R. Edson & Son Co. 23 .. dry
Richards, Oko O. & G. Co. 11 dry
Dague, Preston Oil Co. 1 20

MEIGS COUNTY

Camden, J. McGhee, tr., et al 10 3

MORGAN COUNTY

McCarty, Ralston & Maynard 17 1
Yarnell, Chas. Mosier et al 2 15

NOBLE COUNTY

Addis, Permain O. & G. Co. 1 gas

WASHINGTON COUNTY

Bachelor, Kevin Corp. et al 2 2
Parr, Peoples Banking & Trust 2 dry
Semmler, Penn Ohio Gas Co. 1 dry
Barber, E. J. Mildren 4 dry

WEST VIRGINIA

WELLS COMPLETED

BOONE COUNTY

Cole & Crane, Pond Fork O. & G. Co. 15 gas

CABELL COUNTY

Day, W. Va. Nat. Gas Corp. 1 gas

CALHOUN COUNTY

R. F. Bennett, Carnegie Nat. Gas Co. 1. gas
Cooper, W. A. Bickerstaff et al 2 50
Haught, Creed Barker et al 1 dry
Hays, F. F. McIntosh 6 gas
Jones, Cain & Rothwell 2 gas

GILMER COUNTY

Ellyson, Harlet Satterfield et al 1 dry
Gainer, McCall Drlg. Co. 2 gas

LINCOLN COUNTY

Miller, Pridemore & Adkins 1 gas

MARION COUNTY

Dye, Monroe & Laughlin 1 2

MONONGALIA COUNTY

Williams, Chartiers Oil Co. 1 20

RITCHIE COUNTY

Koehnlein, R. B. Roberts et al 1 1
Markey, H. N. Rinehart 5 dry
Frederick, Smith & Hendershot 2 25
Boehm & Strickler, Boehm & Strickler Oil Co. 5 150
McGinnis, R. B. Roberts et al 1 dry
Heffner, A. H. Jackson et al 2 dry
Dye, G. A. Smith et al 1 gas
Ball, Richards Farm Oil Co. 5 40
Connelly hrs., Lewis and Litten Gas Companies 1 10
Warner, Floyd Rexroad et al 1 gas
Ritchie Mines, Wilson & Baker 24 gas

WIRT COUNTY

Vandeventer, W. C. Patterson 20 5

Lima Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Wood	0	0	0	0	4	4	
Hancock	0	0	0	0	0	1	1
Allen	1	7	0	0	3	2	2
Auglaize	1	2	0	0	0	2	2
Mercer	3	2	0	1	0	1	1
Darke	0	0	0	0	0	1	1
Van Wert	1	40	0	0	0	0	0
Sandusky	0	0	0	0	0	2	2
Lucas	0	0	0	0	0	1	1
Ottawa	0	0	0	0	0	1	1
Seneca	3	0	0	3	0	3	3
Wyandot	8	240	4	1	3	3	6
Hardin	1	0	0	1	0	0	0
Williams	0	0	0	0	0	1	1
Ttl. Nov.	18	291	4	6	3	22	25
Ttl. Oct.	17	180	8	5	1	27	28
Difference	1	111	4	1	2	5	3

WELLS COMPLETED

WOOD COUNTY

Lake—H. C. Mickelsen, Lantz, Schulte & Co. 1, 2, 3, 4 abd
Fred Berndt, Lantz, Schulte & Co. 1, 2 abd
John Sieving, August Bushman & Co. 2, 3, 4, 5, 6 abd
Earl Diehl, August Bushman & Co. 1, 2 abd
Montgomery — Graham, R. C. Williams 1, 2, 3, 4, 5, 6, 7, 8, 9 abd
Aaron, Lescher, R. C. Williams 1, 2, 3 abd

Wells abandoned 25

ALLEN COUNTY

Bath—Mary Steele, C. A. and F. J. Peavy 1 7

AUGLAIZE COUNTY

Moulton—Grover Lynch, Grover Lynch 1 2

MERCER COUNTY

Butler—Oliver Johnson, A. A. Lauber 1 1
Grantville — Casper Reier, Frank & Quinter 1 gas
Union—C. S. Lemunyon, A. M. Collins & Co. 4 1

Wells completed	3
Production	2
Gas	1

VAN WERT COUNTY

Jackson — Homer Keltner, Shoull & Lewis 1 40

SANDUSKY COUNTY

Scott—J. Baumann, North Ohio Oil Co. 13, 14, 15 abd
Wm. Myers, B. F. Howey 1, 5 abd
Dora Allen Winchell, Chas. W. Putman 2, 4 abd

Wells abandoned 7

SENECA COUNTY

Liberty—Chas. H. Feasel, Tiffin Industrial Gas 1 gas
Chas. Dumitz, Fred Keiner 1 gas
Hopewell—Homer Dewald, S. H. Curry 2 gas

Wells completed	3
Gas	3

WYANDOT COUNTY

Crane—Mary Sampson, Maese O. & G. 2 dry
Jos. Coutard, Robt. Kirk & Co. 1 dry
Enest Kuenzli, Cobb & Ringle 2 dry
Louis Brandt, Keiner & Co. 7 dry
Gotlieb Seiler, Keiner & Co. 2 30
Margaret Brillhardt, Jones & Coyle 7 10
Saltsman., Upper Sandusky O. & G. 4 200
Mary Loverick, Upper Sandusky O. & G. 3 gas

Wells completed	5
Production	240
Dry	4
Gas	1

HARDIN COUNTY

Roundhead—Douglas Poe, Simms O. & G. Co. 1 gas

Central Ohio Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Aigs	Drg.	Ttl.
Ashland	2	0	1	1	2	3	
Medina	7	41	3	0	1	1	2
Lorain	5	0	3	2	0	5	5
Wayne	0	0	0	0	1	2	3
Holmes	0	0	0	0	0	1	1
Summitt	0	0	0	0	1	3	4
Fairfield	2	0	0	0	3	1	4
Richland	0	0	0	0	0	1	1
Knox	0	0	0	0	3	1	4
Coshocton	1	52	0	0	2	3	5
Licking	4	70	0	2	0	9	9
Muskingum	3	0	1	2	0	6	6
Athens	10	0	4	6	1	13	14
Tuscarawas	0	0	0	0	1	5	6
Portage	1	0	1	0	0	0	0
Stark	13	0	0	13	4	25	29
Belmont	12	0	2	10	1	11	12
Guernsey	4	5	0	3	0	4	4
Columbiana	0	0	0	0	0	1	1
Crawford	0	0	0	0	0	1	1
Gallia	0	0	0	0	0	1	1
Scioto	0	0	0	0	0	1	1
Pike	0	0	0	0	0	2	2
Carroll	0	0	0	0	0	4	4
Ttl. Nov.	64	168	15	41	19	103	122
Ttl. Oct.	34	282	9	14	23	102	125
Difference	30	114	6	27	4	1	3

WELLS COMPLETED

ASHLAND COUNTY

Lake—D. G. Chandler, Stewart & Co. 2 dry
Greene—N. L. Welch, Ohio Fuel Gas 2-3,855 gas

Wells completed	2
Dry	1
Gas	1

MEDINA COUNTY

Chatham—Sanford-Watson, O. K. Oil & Gas 38 2
Miller, E. R. Edson & Son Co. 36 2
Curtis & Eaken, Brown 10 dry
Weideman, E. R. Edson & Sons Co. 23 dry
Leitchfield—P. & A. Weaver, D. A. Lake 8 15
P. & A. Weaver, D. A. Lake & Co. 10 dry
C. A. Dague, Preston Oil 1 20

Wells completed	7
Production	41
Dry	3

LORAIN COUNTY

Eaton—Jacob Ligas, Ohio Fuel Gas 1-5,743 dry
E. G. Alexander, Ohio Fuel Gas 1-5,772 gas
Carlisle—Frank Harrison, McMillan & Co. 1 gas
Grafton—John Rising, Ohio Fuel Gas 1 dry
Russia—Clarence Brooks, R. E. Cain 1 dry

Wells completed	5
Dry	3
Gas	2

FAIRFIELD COUNTY

Berne—C. B. Ricketts, City Nat. Gas Works 5 gas
Pleasants—James Keister, City Nat. Gas Works 1 gas

Wells completed	2
Gas	2

COSHOCTON COUNTY

Perry—Rolla McKee, Kuntz-Hulse, Inc. 3 52

LICKING COUNTY

Hanover—Felix Claypool, Everette Gas Co. 5 40
Mary Ann—Clement Keaser, Ohio Fuel Gas 1-5,765 gas
O. A. Kreager, Wehrle Gas 2 gas
Fallsburg—Sam Mossholder, Blue Rock Oil & Gas 7 30

Wells completed	4
Production	70
Gas	2

MUSKINGUM COUNTY

Perry—Chas. Turnblin, The Atha Co. 1 dry
Muskingum—Ludwin Flowers, Mid-East Gas Co. 3 gas
Washington—Grover C. Wilson, The Atha Co. 1 gas

Wells completed	3
Gas	2
Dry	1

ATHENS COUNTY

Berne—Black Diamond Coal, Ohio Fuel Gas 13-5,761 dry
Chas. Caldwell, Williams Bros. 1 gas
Pioneer City Bldg. & Loan, C. W. Nazum 1 gas
G. W. Armstrong, Williams Bros. 2.. gas
Ed Devore, John Bowman 6 gas
P. and E. Ball, Carpenter & Glazier 2 dry
Carthage—Chas. Cole, C & M. Oil & Gas Co. 1 dry
Lodi—L. A. Ruth, Clyde Cody 1 gas
Cannan—Joe Weiland, Stewart & Ross 1 gas
Waterloo—John Young, Chas Vaughn 1 dry

Wells completed	10
Gas	6
Dry	4

PORTAGE COUNTY

Deerfield—W. L. Lynn, Brendel Prod. Co. 1 dry

STARK COUNTY

Jackson—John Wyles, East Ohio Gas 3 gas
H. and L. Schriver, Brendel Prod. Co. 1 gas
Henry Huthnather, Brendel Prod. Co. 2 gas
Jacob Schworn, Fulton Oil & Gas 1.. gas
Plain—Hoover Dev. Co., East Ohio Gas 1 gas
Chas. Pontius, East Ohio Gas 1 gas
Clara Walster, Ohio Fuel Gas 1-5,751. gas
Peter Henry, Borttler & Co. 1 gas
Grace B. Steele, Fulton Oil & Gas Co. 1 gao
L. and E. Fritz, Brendel Producing Co. 1 gas
Elm Wood Park, Brendel Prod. Co. 1 gas
Peter C. Graber, Brendel Prod. Co. 1. gas
J. S. Unger, Brendel Prod. Co. 2 gas

Wells completed	13
Gas	13

BELMONT COUNTY

Somerset—A. J. Burkhart, A. C. Peters & Co. 1 gas
Roselia Johnson, A. C. Peters & Co. 4 gas
Roselia Johnson, A. C. Peters & Co. 5 gas
Warren—C. F. Finch, Robt. Lewis & Co. 2 gas
J. House, Robt. Lewis & Co. 3 gas
Kirkwood—Kaiser, Bradfield & Co. 1 .. dry
Union—Walker, Frank Strange & Co. 1 dry
Louis Gilham, R. W. Dunn & Co. 1.. gas
M. L. Bell, Ohio Fuel Gas 1-5,763 .. gas
J. F. Pollock, Ohio Fuel Gas 1-5,764. gas
W. L. Boyd, Robert Morgan & Co. 2.. gas
Goshen—J. and A. Teiches, Morgan & Peters 1 gas

Wells completed	12
Gas	10
Dry	2

GUERNSEY COUNTY

Wheeling—J. O. Alloway, Preston Oil 6-1,531 5
Washington—W. L. Braniger H. F. Muhlbock & Son 6 gas
Wills—Ralph Foraker, Wilbur Keith 1 gas
Jennie Rose, J. T. Roach 3 gas

Wells completed	4
Production	5
Gas	3

Indiana Fields

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Gibson	1	0	0	1	0	3	3
Pike	1	0	0	1	1	2	3
Sullivan	0	0	0	0	0	1	1
Vigo	1	0	1	0	0	0	0
Daviess	2	0	2	0	0	5	5
Warrick	0	0	0	0	0	1	1
Spencer	0	0	0	0	0	5	5
Perry	3	65	1	0	1	1	2
Greene	0	0	0	0	0	1	1
Harrison	0	0	0	0	0	2	2
Huntington	1	0	1	0	0	0	0
Jay	0	0	0	0	0	1	1
Porter	0	0	0	0	0	1	1
Stark	0	0	0	0	0	1	1
Martin	1	0	1	9	0	1	1
Hancock	1	0	1	0	0	0	0
Kosciusko	0	0	0	0	0	1	1
Henry	1	0	0	1	0	1	1
Shelby	1	0	1	0	0	1	1
Vanderburg	7	130	3	0	1	6	7
Total Nov.	20	195	11	3	3	34	37
Total Oct.	23	515	7	7	1	36	37
Difference	3	320	4	4	2	2	0

WELLS COMPLETED

GIBSON COUNTY

Columbia — E. F. and L. W. Gudgel, Knox Engineering Corp. 3 gas

PIKE COUNTY

Washington — R. N. Craig heirs, Bell, Trussler & Co. 6 gas

VIGO COUNTY

Prairie Creek — J. R. Wilson, Pierson, Yeager & Co. 1 dry

DAVIESS COUNTY

Harrison—M. L. Wallace, Indiana Southwestern Gas Corp. 1 dry
Veale—Edith White, C. H. Parrett & Co. 2 dry

Wells completed	2
Dry	2

PERRY COUNTY

Clark—A. Franchville, Anderson Creek Oil & Gas 5 40

J. Leclire, Bankable Oil Co. & Smith 3 25
Tobin—Jos. Cook, Morehead & Gard 2 .. dry

Wells completed 3
Production 65
Dry 1

HUNTINGTON COUNTY
Huntington—Julius Werling, Fred Brandt 1 ..... dry

MARTIN COUNTY
Perry—John Larkin, Sproul & Co. 4 .... dry

HANCOCK COUNTY
Marshall Wales—Knightstown Natural Gas 2 ..... dry

HENRY COUNTY
Wayne—John Chew, Knightstown Natural Gas Co. 3 ..... gas

VANDERBURG COUNTY
Center—J. M. Effinger No. 1, Drake, Moffett & Young 6 40
Chas. P. Bumgart, Foreman & Miller 1 19
D. J. Stock, Foreman & Miller 1 .... dry
Southern Indiana Gas & Electric, Knapp & Woods 4 50
Coleman, Unknown 1 ..... dry
Helen Murphy, Foreman & Miller 1 .. 30
Perry—Christine R. Riggs, Unknown 1 . dry

Wells completed 7
Production 130
Dry 3

SHELBY COUNTY
Van Buren—Fee, J. Harve Snider 1 .... dry

Illinois Fields

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	0	0	0	0	1	1	1
Crawford	0	0	0	0	1	1	2
Marion	0	0	0	0	0	2	2
Boone	0	0	0	0	0	1	1
Jefferson	0	0	0	0	0	1	1
Jasper	0	0	0	0	0	1	1
Clinton	0	0	0	0	0	1	1
Bond	0	0	0	0	0	2	2
Madison	0	0	0	0	0	1	1
Coles	0	0	0	0	1	0	1
Total Nov.	0	0	0	0	2	11	13
Total Oct.	0	0	0	0	1	12	13
Difference	0	0	0	0	1	1	0

WELLS COMPLETED
CRAWFORD COUNTY
Oblong—J. L. Berryhill, Ohio Oil 1, 2, 3, 4 ..... abd

Kentucky Fields

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Ohio	9	113	5	0	0	11	11
Daviess	2	40	1	0	0	16	16
Hancock	6	155	3	1	0	6	6
Muhlenberg	2	0	2	0	0	3	3
McLean	8	305	5	0	0	8	8
Bath	0	0	0	0	0	1	1
Lee	0	0	0	0	0	1	1
Knox	0	0	0	0	0	1	1
Edmonson	0	0	0	0	0	1	1
Todd	0	0	0	0	0	1	1
Grayson	0	0	0	0	1	1	2
Henderson	1	0	0	1	0	0	0
Webster	1	0	0	1	0	9	0
Warren	1	20	0	0	0	2	2
Allen	1	0	0	1	1	1	2
Total Nov.	31	633	16	4	2	53	55
Total Oct.	9	164	2	1	2	53	55
Difference	22	469	14	3	0	0	0

WELLS COMPLETED
OHIO COUNTY
Hartford—C. H. Farmer, J. E. Hare & Co. 4 ..... dry
C. G. Kelley, Penn-Indiana Oil Co. 24 dry
Frank Hanna South 40-a, D. T. Bolling 7 35
E. C. Hartford, Snowden-McSweeney Co. 1 45
E. C. Hartford, Snowden-McSweeney Co. 2 18
Edwards heirs, Ernest Porter & Co. 1 dry
E. C. Dunn, Geo. Stewart & Co. 4 15
Herman Fuqua, Hupp & Duff 1 ..... dry
O. H. Kirk, Kemrow-Cumberland Co. 3 dry

Wells completed 9
Production 113
Dry 5

DAVIESS COUNTY
Owensboro—W. D. Wright, Hupp & Duff 6 40
Robert Wilson, C. Combs 1 ..... dry

Wells completed 2
Production 40
Dry 1

HANCOCK COUNTY
Pellville—Ulysa Bolling, Sand Petroleum Co. 1 ..... dry
Jim Crow, Sand Petroleum Co. 1 ..... dry
William House, Ed M. Egg Oil Co. 3. 5
R. A. Richards, James C. Ellis 2 150
Tittle Keown, Hupp, Duff & Co. 3 .. dry
Tittle Known, Hupp, Duff & Co. 2 .. gas

Wells completed 6
Production 155
Dry 3
Gas 1

MUHLENBERG COUNTY
Greenville—C. V. Boggess, H. K. Oil & Gas Co. 1 ..... dry
Jeff Wells, Ellis & Young 1 ..... dry

Wells completed 2
Dry 2

McLEAN COUNTY
Calhoun—Atherton heirs, Mike Callas & Co. 4 ..... dry
J. F. Kerrick, Cameron & Thompson 2 35
G. B. McManama, Ohio Oil Co. 6 70
L. E. Morris, W. W. Dameron 12 200
Miller & Renfroe, T. Y. Gregg 1 ..... dry
Barnett heirs, F. Cox & Co. 1 ..... dry
Cox heirs, Cumberland Petroleum 1 . dry
G. A. Strader, Fred Hupp 1 ..... dry

Wells completed 8
Production 305
Dry 5

HENDERSON COUNTY
Niagara—Aaron Freeman, Imperial Oil & Gas Products 4 ..... gas
WEBSTER COUNTY
Sebree—Jane Chesser, H. Z. and O. B. Clark 1 ..... dry
WARREN COUNTY
Bowling Green—C. G. Davenport, Union Pipe & Supply 32 20
ALLEN COUNTY
Scottsville—E. H. Woods, H. H. Coughill & Co. 54 ..... dry

Eastern Fields

(Continued from Page 49)

are drilling: H. H. Baker Gas Co. is down 925 feet on the J. M. Lewis lot; R. H. Adkins and others are drilling at 1,100 feet on the Oland G. Charles farm; C. C. Wolfe and others have reached 2,375 feet on the S. E. Vickers farm; Martin and Swanson are drilling at a similar depth on the Humphrey farm and Black & Sansom reached 1,050 feet on the F. H. Holswade farm and shut down.

In Roane County, Ohio Valley Gas Co. is drilling by the tools on the Josephine Young farm in Smithfield district. The depth is 1,665 feet. In Spencer district, George E. Smith is building a rig on the L. A. Short farm and D. S. Fisher and others have a rig standing on the Stella V. Knotts farm. In Curtis district, W. B. Heeter is cementing a cave at 825 feet on the Maude Knopp and others farm and Henderson Oil Co. is cementing a cave at 900 feet in a second test on the F. L. Ball farm.

In Calhoun County Ohio Valley Gas Corp. has rigged up on the D. C. Bailey farm in Washington district. In Lee district Litt Oil & Gas Co. is skidding the rig to a new location on the J. S. Wade farm. F. F. McIntosh has reached 1,725 feet in a second test on the Mary E. Hays farm. In Sherman district, the same operator has material for No. 3 on the O. S. Bennett lease. W. H. Bickel has rigged up on the Luverna Barr farm. R. Fowler and others are down 1,375 feet on the Lafayette Stump farm. In Center district, L. P. Bickel is down 1,225 feet in No. 13 on the Martha Stump heirs farm and Fisher and Smith are drilling at 1,725 feet in a second test on the C. A. and M. S. Snyder lease.

In Boone County Pure Oil Co. is building a rig for No. 63 on the Federal Coal Co. tract in Sherman district. On this lease three wells are drilling, Nos. 60, 62 and 64. No. 64 has reached 1,164 feet. On the Williams Coal Co. lease this company has reached 2,279 feet in No. 259 feet. Columbian Carbon Co. is down 1,080 feet in No. 6 on the Broun-Cochran lease, same district.

SOUTHWEST PENNSYLVANIA

No additional wells were completed in Southwest Pennsylvania. A new test is starting in Amwell Township, Washington County, where Union Gasoline & Oil Co. is building a rig on the Miles farm, mapped as the Grant Moniger farm. This farm offsets the test of Carnegie Natural Gas Co. on the C. L. Morton farm which is a producer in the Fifth sand and which had a fair showing of gas in the 30-Foot sand. In this township, Carnegie Natural Gas Co. is drilling at 840 feet on the C. W. Dunn farm and has reached 700 feet on the John Murphy farm. On the Eliza Roach farm, Wise Oil & Gas Co. is down 1,030 feet.

In Greene County, Richhill Oil & Gas Co. is shut down at 1,430 feet on the P. W. Gribben farm and is running casing. In the same township, Richhill, C. J. Adrian reached 350 feet on the G. W. Woodruff farm. John Lantz is shut down at 1,150 feet on his own farm in Greene Township. In Dunkard Township, Convex Glass Co. is down 1,000 feet on the G. C. Ross farm and has a fishing job.

SOUTHEAST OHIO

Activity is diminishing in Southeast Ohio and many wells are shut down. Only one completion and one dry hole were reported from that district. In Medina County E. R. Edson & Son Co. completed No. 39 on the Edward G. Miller farm, Tract 15, Lot 12, Chatham Township. It was drilled in the Berea grit at 480 feet and produced 10 bbls. the first day after shot.

In Licking County, in the northeast corner of Lot 37, Hopewell Township, Wehrle Co. drilled a second test on the G. W. Kreager farm through the Clinton sand to a depth of about 3,000 feet. It proved to be dry. No. 1 on this farm was a small gas well.

Canadian Fields

(Continued from Page 52)

limited to a maximum of 1,920 acres. Individual holdings can, however, be extended by assignments. The area of the minimum lease is left to the discretion of the minister of lands and mines.

Tests in the Foothills

On the Moose Mountain structure west of Calgary, Elbow Oils' No. 1, LSD 11, Section 35-22-5w5, is reported making new hole from 3,645 feet.

Border Fields

On the Alberta end of the international Reserve Dome structure, Rialto Oils' No. 1, LSD 4, Section 15-1-9w4, is shut down at 2,550 feet waiting for casing.

On the Twin River structure south of Lethbridge, Nordon-Roney's No. 2 Twin River, LSD 11, Section 2-2-20w4, is reported shut down waiting for a second acid treatment. It is showing considerable oil and some gas.

Northern Alberta Operations

At a recent meeting of the directors of Athadome Oils, Ltd., at Toronto, it was decided to proceed in the spring with the systematic development of the company's holdings in northern Alberta near Athabaska Landing. Athadome's No. 2, LSD 3, Section 15-66-23w4, is shut down for the winter at 2,504 feet. It got a fair show of asphaltic crude around 1,650 feet and entered the lime at 2,225 feet. Some further traces of oil were unofficially reported in the lime below 2,375 feet, but it is understood the hole is likely to be plugged back to take production from the upper oil sand. The field will likely be developed on a unit basis, with some 10 or 12 wells in a string operated by one pumping plant. The production will be handled in a topping plant to be installed and operated by the company, the production being disposed of in the north.

Ontario Oil Showing

Considerable interest is being taken in the recent oil strike by the Leo A. Wilson Syndicate of Sarnia in Brooke Township, Lambton County. Wilson Syndicate's No. 1 drilled on the Fred Atchison farm, Concession 12, Brooke, encountered a first oil show in the top of the lime at 405 feet and on deepening to 450 feet got a larger show, with some gas. According to John Scott of Petrolia, government oil and gas inspector, the well has a flush production around 25 bbls. with a good showing of gas. The producing strata is within 55 to 60 feet of the Petrolia and Oil Springs formations and very similar in character. Further tests will be undertaken to determine if the strike represents the opening of a new field midway between the old producing fields in Lambton County and the Mosa Field in Middlesex. The location is a little south of Watford and several miles almost due east of the Petrolia Field.

Other Ontario Tests

In the Dawn Field, Lambton County, Union Gas Co.'s No. 4 has been deepened to 2,074 feet without increasing production. Union's No. 70, Lot 24, Concession 1, Dawn Township, is below 1,670 feet and getting close to the pay, with indications of a good gasser.

In Elgin County, Union Gas Co.'s No. 1 Aldborough, Lot D, Concession 10, Aldborough Township, is drilling below 1,840 feet without a show. At this depth the test has passed through the horizon which gave small gas shows in the Orford Township tests of the Vacuum Gas & Oil Co., so that it looks like a dry hole. Drilling will be continued to the shale, however, as there is a bare possibility of production in the Clinton formation.

In Essex County, Bon Jasperson's No. 1, Lot 14, Concession 2, Maidstone Township, is reported drilling around 3,400 feet, and more than 800 feet in the Trenton formation, without a shot. It will probably be continued to the granite.

In the Dover Field, Kent County, Ajax Oil & Gas Co.'s No. 6, Antaya farm, SE Lot 1, Concession 4, Dover East, is drilling below 2,913 feet after getting the top of the Trenton limestone at 2,899 feet. Prairie Oil & Gas Co.'s No. 2, Stephens farm, Lot 2, Front Concession, Dover East, is shut down at 1,035 feet. Prairie's No. 1, some 850 feet to the northwest on the same property, has a potential gas and oil production from the Trenton limestone. The oil is, however, kept back by gas pressure and at present there is no market for the gas. The well indicated around 500,000 feet open flow after a shot and is probably good for 350,000 feet.

Blood Indian Project

A Dominion charter was recently issued to Blood Indian Oils, Ltd., with office at Lethbridge, Alberta. Incorporators are William Ernest Kirsch, Reginald Ewart Sayce and Cecil Mark Long, all of Moose Jaw, Saskatchewan. Mr. Long is an oil operator and will, it is understood, have charge of development. It is understood the first operations will relate to development of acreage on the Blood Indian Reserve near Lethbridge.

NEW MAP OF EAST TEXAS BASIN

A new geological map has just been published by Keith A. Spitznagel, consulting geologist, Tyler, Tex., covering 26 counties in eastern Texas and showing the location of 915 dry holes, recent drilling wells, and much information of this kind. The data for the base of this map is secured from various geological publications, from well logs, and has been carefully compiled with the idea of showing surface conditions in the great Woodbine basin, also outcrops, faults, towns, county lines and other areal features.

The map also locates the position of dry holes drilled in the East Texas Basin. Complete information as to each well such as name of operator, farm, survey, surface elevation, top and base of most important markers, such as the Woodbine sand and Georgetown lime. These data have been carefully selected and should be of value to all oil companies interested in the district for their various departments as well as to land men and lease brokers. Map is 36 by 55 inches and cost $35, printed upon paper, and $40 on linen. The compiled well log data is furnished with each map. Mr. Spitznagel's address is 205 Swann Building, Tyler, Tex.

LEGAL

Oil and gas lease, Steuben County Reforestation Area No. 1. Sealed bids for the leasing of the right to prospect, extract, pipe, store and remove oil and natural gas from State Reforestation Area, Steuben No. 1, consisting of 585.41 acres in the town of Greenwood, Steuben County, N. Y., will be received at the office of the Commissioner of Conservation, Tenth Floor, State Office Building, Albany, N. Y., until 1 P. M. (Eastern Standard Time) on the 15th day of January, 1934. These privileges will be leased to the highest bidder in accordance with the terms of Section 60-b of the Conservation Law and of the standard oil and gas lease of the State of New York. Copies of this lease will be furnished to prospective bidders upon application. Official maps of the Conservation Department showing the location of the lands to be leased may be seen at the office of the Conservation Department, State Office Building, Albany, N. Y., and at the office of District Forester I. S. Bowlby, 34 Liberty Street, Bath, N. Y. Bidding for these privileges will be upon the royalty per thousand feet for gas, in addition to which an annual rental of $1,000.00 will be required and also one-eighth of the market value of any oil produced. Bids must be accompanied by a certified check or cash deposit in the amount of the annual rental, which will be credited to the successful bidder upon execution of the lease. Deposits of unsuccessful bidders will be returned. Successful bidders will be required to give a bond of $5,000.00 for faithful performance of the terms of the contract. The Conservation Department reserves the right to reject any and all bids.

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6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
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9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

To avoid delay be sure to send remittance with copy. Over payments will be refunded. One time insertions will not be run until fully paid.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

For Sale—Equipment

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor. Six-inch Oster Pipe Threading Machine. Also, large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

ONE 165 H.P. Type 10 Bessemer Direct Driven Compressor in good running condition. Also 60 H.P. Bessemer Gas Engine. Bargain Nolan Sales Corp., Tulsa.

12—55,000 BBL. STORAGE TANKS
Will move and re-erect your grade, ⅜" Steel Roof, roof accessories, 2 swing lines, the newest tanks offered for sale. Built under the old specifications, full thickness of steel, positively no chance of collapsing and strictly guaranteed, cash or terms.
SONKEN-GALAMBA CORPORATION
64 North 2nd St., Kansas City, Kans.

Equipment Wanted

WANTED — High Pressure Compressor Cylinder for X.O.B. type Ingersoll Rand, must be in good condition priced right. 924 Hamilton Building, Wichita Falls, Texas.

Help Wanted

OPPORTUNITY for salesman calling on oil industries to add substantially to his present income, products endorsed by leading oil companies, liberal coms., trial orders, advance against orders, exclusive ter. Rathbun Company, Inc., El Paso, Tex.

Financing

JAMES E. MILLER CO., 207½ E Third St., Tulsa, Okla., will co-operate with responsible parties seeking aid in financing projects of higher order.

CORPORATE Organizing—Reorganization—Refinancing—New Financing.
THE BROOKWORTH CO., INC.,
110 East 42nd Street, New York, N. Y.

Patent Attorneys

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to any one, send for blank form:
"Evidence of Conception,"
Instructions "How to Establish Your Rights" and complete information FREE!
LANCASTER, ALLWINE & ROMMEL
418 Bowen Building,
Washington, D. C.

Chemists

GINTER CHEMICAL LABORATORY
Analytical Work on Oil, Gas, Water and Cores
118 West Cameron
Tulsa

Situations Wanted

YOUNG MAN experienced in operation and maintenance of refinery looking for opportunity. Address Box F-912, The Oil and Gas Journal, Tulsa, Okla.

SALESMAN — 32. Married; 2 years college, 8 years Drilling and Production, 6 years Sales experience. Thoroughly acquainted Mid-Continent and Gulf Coast personnel and practice. Address Box F-920, The Oil and Gas Journal, Tulsa, Okla.

Incorporations

CHARTERS—Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

DELAWARE CHARTERS—Fees small, free forms. CHAS. G. GUYER, 901 Market St., Wilmington, Del.

Business Opportunities

INCORPORATE YOUR BUSINESS. Delaware laws. Many advantages. Low cost. Write today. Free advisory service. CORPORATION FISCAL COMPANY, INC., Wilmington, Delaware.

Leases—Production

FOR SALE oil and gas leases in shallow territory, also oil and gas producing properties with settled production and many proven locations to drill.
W. P. HARLEY, Bowling Green, Ky.

BROKERS—Well located leases and perpetual royalties at wholesale prices, small and large tracts. Write A. C Smith, P.O. Box 927, Houston, Texas

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico
Roy G. Barton, Clovis, New Mexico

FOR SALE—Leases, royalties, 1 A. or more. Also drilling block. D. J. Perry, Edmond, Okla.

FULL working interest below three thousand feet reserved by advertiser about 160 acres and half interest in adjoining lease 129 acres—will trade part interest for NO less than one and up to three wells to be drilled to Wilcox. Sec. 4-16N-15E, Wagoner, Okla. John F. Bruns, 783 East 35 St., Brooklyn, N. Y.

PUBLIC SALE OF OIL PROPERTIES
By Order of
United District Court for the
Eastern District of Kentucky
The Oil Properties—formerly operated by Hudson and Collins—Lexington, Ky., located in the eastern Kentucky Oil Field will be sold at the time and place herein named—
Lee County Properties on Tuesday, January 16th, 1934, at 1:00 P.M. Central Standard time at Beattyville, Ky.
Magoffin County Properties on Thursday, January 18th, 1934, at 2 P.M. Eastern Standard time at Salyersville, Ky.
For information, call or write the undersigned.
C. M. MARSHALL, Special Master
Lexington, Kentucky.

FOR SALE—N. E. ¼ Section 28, Twp. 19, South, Range 1, east of 6th Prin. Meridian, Marion County. Good oil and gas possibilities. Good renters. Write K. Lawrence, Eldora, Iowa.

WOODBINE SAND Wildcats starting where you have chance might make 40 for 1. Leases-Royalties. E. Croft, Proctor, Tex.

BROKERS-INVESTORS
Oil Leases near drilling, $1 acre, near production, $3. Also cheap royalties.
E. M. ADAMS, Clarksville, Texas.

Royalties—Production

BETTER CLASS
MONTHLY INCOME ROYALTIES
W. E. Cook, Court Arcade, Tulsa, Okla.

ROYALTIES FOR INVESTMENT
Andrew J. Barrett,
Suite 1903, The Philtower,
Tulsa, Okla.

ROYALTIES CAREFULLY SELECTED
G. D. TERRIEN
Philcade Building. Tulsa, Okla.

PRODUCING OIL ROYALTIES
Bought and Sold.
Inquiries invited from Oil Companies, Bankers, Dealers.
DAVID R. MITCHELL & CO.,
Established 1916.
20 BROAD ST. NEW YORK.

PRODUCING OIL ROYALTIES
bought and sold
E. TEXAS, CONROE and VAN OIL FIELDS
Offerings and inquiries invited only from royalty owners, companies, brokers, dealers and others engaged in the oil or oil royalty business. Wholesale only.
J. G. REAVES
and Associates
Reaves Building
Tyler, Texas.

ROYALTIES for dealers, producing, nonproducing Oklahoma, Kansas, Texas, Louisiana. Lowest prices and highest quality. James R. Haynes, Grantville, Kans.

SELECTING OIL ROYALTIES
for dealers a specialty.
Kansas-Oklahoma City-Seminole.
Chester Imes,
First National Bank Building,
Oklahoma City, Okla.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Okla.

High Grade Producing Royalties
Mid-Continent Area
Lon L. Simpson
Tulsa Loan Bldg., Tulsa, Okla.

DEEDED ROYALTIES
WHOLESALE ONLY
Specializing in Groups and Combinations for fullest protection of principal and reasonable returns.
Individual Offerings for High Present returns—Undeveloped properties providing highly speculative possibilities.
Dealers Accounts exclusively.
J. B. McANALLY
HUNT BLDG.
TULSA.

Oil and Gas Royalties
Kansas-Oklahoma-Texas
L. H. Witwer
217 Cole Bldg., Tulsa, Oklahoma

PRODUCING OIL ROYALTIES
in Fractional deeds from $100 up.
John L. Dickson, Box 1113, Tulsa, Okla.

CHOICE INCOME OIL ROYALTIES, Kansas and Oklahoma, for investors and dealers. J. L. HANER, 105 McKibban Bldg., Muskogee, Okla.

Income Producing Royalties
Mid-Continent Field
Harry A. George
Exchange Bank Bldg., Tulsa, Okla.

ROYALTY under lands selected and leased by major companies. Small money buys large interests before drilling begins. Write for maps and details. R. R. Fisk, Box 395-B, Wichita Falls, Texas.

Display Rates

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1 inch	1 time	$5.00
1 inch	13 times	4.50
1 inch	26 times	4.00
1 inch	52 times	3.50

PAYABLE IN ADVANCE
MONTHLY

One-point borders and 10-point capitals are allowed; larger type not accepted.

To avoid delay be sure to send remittance with copy. Over payments will be refunded. One time insertions will not be run until fully paid.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Royalties—Production

CASH for good producing royalties. Send best bargains with complete information. W. D. Kinney, Tyler, Texas.

PRODUCING OIL ROYALTIES
H. P. BOWEN
809 Daniel Bldg., Tulsa, Okla.

CHOICE DRILLING Tracts in shallow oil belt. Very low drilling cost. Good geology. H. G. Bailey, Cisco, Texas.

CASH WAITING for good producing OIL ROYALTIES if priced for quick sale. E. TEXAS, VAN, CONROE, OKLAHOMA.
Send only bargains with complete information.
CREWS-HINE & CO.
50 PINE STREET, NEW YORK

OIL ROYALTY under major Co. lease located in Lea Co., N. M., on structure. TERMS. Fred B. Manley, Hobbs, N. M.

BUY OIL ROYALTIES FOR INVESTMENT
But first obtain potentials, pipe line runs and allowables of Oklahoma's prorated pools. A monthly service, Price $7.50, also a Daily List of Royalty Deeds recorded in Oklahoma County, giving addresses. Price $5.00 per month. Clyde Kelly, 608 Perrine Bldg., Oklahoma City, Oklahoma.

Producing royalties East Texas wells excellent capital inv. Prices quoted. W. J. Dobbs, 633 Wilson Bldg., Dallas, Texas.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

The advertising dollar should buy space that reaches the maximum number of readers with money to spend. In the oil industry only one medium does this—

THE OIL AND GAS JOURNAL
Don't Miss An Issue in 1934

A Lever Safety Valve for *Sure Protection*

THE Fulton Lever Safety Valve can be set to blow at any desired pressure between 10 and 100 pounds. Its action is positive and sure. It will not stick, nor in any way fail to relieve the line of excess pressure in case of need.

FOR low-pressure distribution, between the high-pressure and the low-pressure regulators, it is advisable to have a lever-type Safety valve. In fact such a valve is recommended for any service involving pressures of 5 to 100 pounds, while for lower pressures, dead-weight valves are available.

FULTON Safety Valves are of special design and superior workmanship and have been proved by many years of unfailing service. Correspondence is invited regarding C-F Gas Regulators, Safety Valves and other requirements for gas control. Descriptive leaflets will be mailed on request.

The Chaplin-Fulton Manufacturing Company

28-40 Penn Avenue CF **Pittsburgh, Pa.**

REPRESENTATIVES:

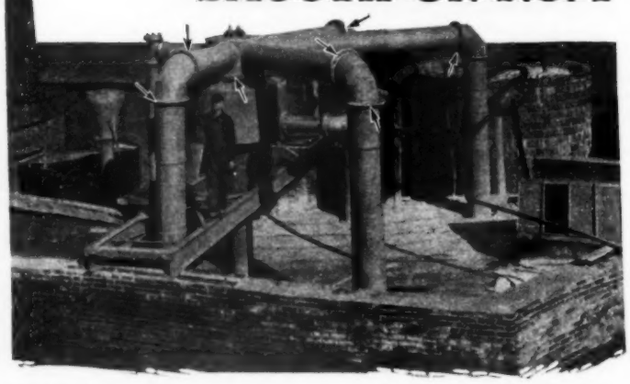
WESTCOTT & GREIS, Inc. Sales and Service Dallas Tulsa

C. H. COLLINS 628 Dwight Building Kansas City, Mo.

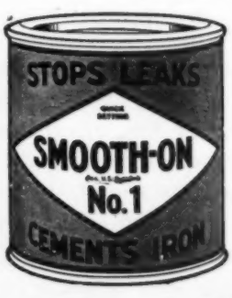
HIMELRLAU, BYFIELD & CO. 228 N. LaSalle St. Chicago, Ill.

Or any Jobber

Made thoroughly tight with SMOOTH-ON NO. 1



THIS vacuum system is made with 18-in. welded pipe having welded steel flanges at the elbows. The flange faces were very rough.



Smooth-On No. 1 built up these faces to smooth, correctly aligned surface, and the joints have stayed tight.

Pitted, corroded or otherwise imperfect flange faces, when thoroughly cleaned and trued up with Smooth-On No. 1 become perfect for holding the gaskets and avoiding leakage.

Get Smooth-On No. 1 in 1 or 5-lb. can from any supply house.

SMOOTH-ON MFG. CO., Dept. 66
570 Communipaw Ave., Jersey City, N. J.

Do it with **SMOOTH-ON**

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